GENERAL

CONTENTS

110003838

GENERAL DATA AND SPECIFICATIONS ... 32

HOW TO USE THIS MANUAL 3

- Explanation of Manual Contents 4
- Maintenance, Repair and Servicing Explanations 3
- Model Indications 3
- Special Tool Note 3
- Terms Definition 3

HOW TO USE TROUBLESHOOTING/ INSPECTION SERVICE POINTS <From 1994 models> 6

LUBRICATION AND MAINTENANCE 37

MAIN SEALANT AND ADHESIVE TABLE ... 57

MAINTENANCE SERVICE 43

- Air Cleaner Element 44
- Automatic Transmission Fluid 48
- Ball Joint and Steering Linkage Seals 51
- Brake Hoses 51
- Disc Brake Pads 51
- Distributor Cap and Rotor 45
- Drive Belt (For Water Pump and Generator) 45
- Drive Shaft Boots 52
- Engine Coolant 49
- Engine Oil 46
- Engine Oil Filter 47
- Evaporative Emission Control System 44
- Exhaust System 56
- Fuel Hoses 44
- Fuel System 44
- Ignition Cables 45
- Manual Transmission Oil 48
- Rear Drum Brake Linings and Rear Wheel Cylinders 51
- Spark Plugs 45
- SRS Maintenance 52
- Timing Belt 45
- Valve Clearance 43

PRECAUTIONS BEFORE SERVICE 25

RECOMMENDED LUBRICANTS AND LUBRICANT CAPACITIES TABLE 38

SCHEDULED MAINTENANCE TABLE 40

TIGHTENING TORQUE 36

TOWING AND HOISTING 28

VEHICLE IDENTIFICATION 13

- Chassis Number 18
- Engine Model Stamping 19
- Theft Protection 20
- Vehicle Identification Code Chart Plate 13
- Vehicle Identification Number List 14
- Vehicle Identification Number Location 13
- Vehicle Information Code Plate 18
- Vehicle Safety Certification Label 19

HOW TO USE THIS MANUAL

110003839

MAINTENANCE, REPAIR AND SERVICING EXPLANATIONS

This manual provides explanations, etc. concerning procedures for the inspection, maintenance, repair and servicing of the subject model. Unless otherwise specified, each service procedure covers all models. Procedures covering specific models are identified by the model codes, or similar designation (engine type, transaxle type, etc.). A description of these designations is covered in this manual under "VEHICLE IDENTIFICATION".

SERVICE ADJUSTMENT PROCEDURES

"Service Adjustment Procedures" are procedures for performing inspections and adjustments of particularly important locations with regard to the construction and for maintenance and servicing, but other inspections (for looseness, play, cracking, damage, etc.) must also be performed.

SERVICE PROCEDURES

The service steps are arranged in numerical order and attention must be paid in performing vehicle service are described in detail in SERVICE POINTS.

TERMS DEFINITION

STANDARD VALUE

Indicates the value used as the standard for judging the quality of a part or assembly on inspection or the value to which the part or assembly is corrected and adjusted. It is given by tolerance.

LIMIT

Shows the standard for judging the quality of a part or assembly on inspection and means the maximum or minimum value within which the part or assembly must be kept functionally or in strength. It is a value established outside the range of standard value.

REFERENCE VALUE

Indicates the adjustment value prior to starting the work (presented in order to facilitate assembly and adjustment procedures, and so they can be completed in a shorter time).

CAUTION

Indicates the presentation of information particularly vital to the worker during the performance of maintenance and servicing procedures in order to avoid the possibility of injury to the worker; or damage to component parts, or a reduction of component or vehicle function or performance, etc.

TIGHTENING TORQUE INDICATION

The tightening torque shown in this manual is a basic value with a tolerance of ±10% except the following cases when the upper and lower limits of tightening torque are given.

(1) The tolerance for the basic value is within ±10%.
(2) Special bolts or the like are in use.
(3) Special tightening methods are used.

SPECIAL TOOL NOTE

Only MMC special tool part numbers are called out in the repair sections of this manual. Please refer to the special tool cross reference chart, which is located in the service manual at the beginning of each group, for a cross reference from the MMC special tool number to the special tool number that is available in your market.

MODEL INDICATIONS

The following abbreviations are used in this manual for classification of model types.

M/T: Indicates the manual transaxle, or models equipped with the manual transaxle.
A/T: Indicates the automatic transaxle, or models equipped with the automatic transaxle.
MFI: Indicates the multiport fuel injection, or engines equipped with the multiport fuel injection.
ABS: Indicates the anti-lock braking system or models equipped with the anti-lock braking system.
1.5L Engine: Indicates the 1.5 dm^3 (89.6 cu.in.) <4G15> engine, or a model equipped with such an engine.
1.8L Engine: Indicates the 1.8 dm^3 (111.9 cu.in.) <4G93> engine, or a model equipped with such an engine.

EXPLANATION OF MANUAL CONTENTS

110000006

Indicates procedures to be performed before the work in that section is started, and procedures to be performed after the work in that section is finished.

Component Diagram

A diagram of the component parts is provided near the front of each section in order to give the reader a better understanding of the installed condition of component parts.

Indicates (by symbols) where lubrication is necessary.

Maintenance and Servicing Procedures

The numbers provided within the diagram indicate the sequence for maintenance and servicing procedures.

- Removal steps:
  The part designation number corresponds to the number in the illustration to indicate removal steps.
- Disassembly steps:
  The part designation number corresponds to the number in the illustration to indicate disassembly steps.
- Installation steps:
  Specified in case installation is impossible in reverse order of removal steps. Omitted if installation is possible in reverse order of removal steps.
- Reassembly steps:
  Specified in case reassembly is impossible in reverse order of disassembly steps. Omitted if reassembly is possible in reverse order of disassembly steps.

Classifications of Major Maintenance / Service Points

When there are major points relative to maintenance and servicing procedures (such as essential maintenance and service points, maintenance and service standard values, information regarding the use of special tools, etc.), these are arranged together as major maintenance and service points and explained in detail.

◀A▶: Indicates that there are essential points for removal or disassembly.

▶A◀: Indicates that there are essential points for installation or reassembly.

Symbols for Lubrication, Sealants and Adhesives

Information concerning the locations for lubrication and for application of sealants and adhesives is provided, by using symbols, in the diagram of component parts or on the page following the component parts page, and explained.

: Grease (multipurpose grease unless there is a brand or type specified)

: Sealant or adhesive

: Brake fluid or automatic transmission fluid

: Engine oil, gear oil or air conditioning compressor oil

: Adhesive tape or butyl rubber tape

Indicates the group title.

Indicates the section title.

Indicates the group number.

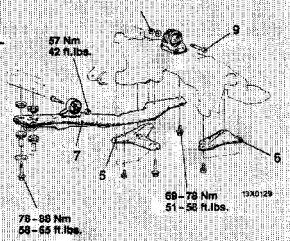
Indicates the page number.

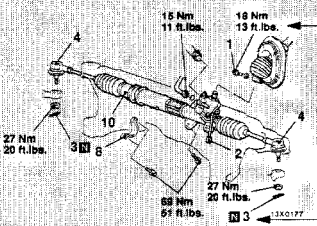
POWER STEERING GEAR BOX

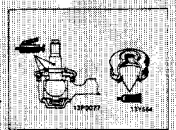
110000525

REMOVAL AND INSTALLATION

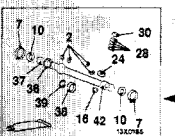
Pre-removal Operation
- Power Steering Fluid Draining (Refer to P.37A-15.)
- Stabilizer Bar Removal (Refer to GROUP 33A – Stabilizer Bar)





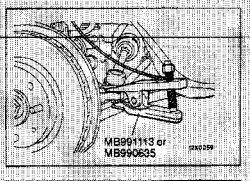


Sealant: 3M ATD Part No. 8663 or equivalent



Steering gear seal kit

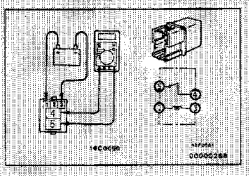
Removal steps
1. Joint assembly and gear box connecting bolt
2. Solenoid valve connector <Vehicles with EPS>
3. Cotter pin
4. ◀A▶ ▶A◀ Connection for tie-rod end and knuckle
5. Stay (L.H.)
6. Stay (R.H.)
7. Center member assembly
8. Clamp
9. ◀B▶ Bolt
10. ◀C▶ Gear box assembly



REMOVAL SERVICE POINTS

◀A▶ TIE-ROD END DISCONNECTION

Caution
1. Be sure to tie the cord of the special tool to the nearby part.
2. Loosen the nut but do not remove it.

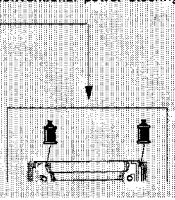


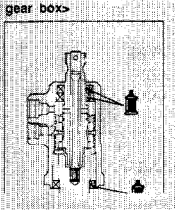
FOG LIGHT RELAY CONTINUITY CHECK

Battery voltage	Terminal			
	1	3	4	5
Power is not supplied	○	○		
Power is supplied	⊕	⊖	○	○

LUBRICATION AND SEALING POINTS

<Conventional power steering gear box>





Fluid: Automatic transmission fluid "DEXRON II"

Denotes tightening torque.
If there is no indication of tightening torque, refer to TIGHTENING TORQUE.

Denotes non-reusable part.

Repair kit or set parts are shown. (Only very frequently used parts are shown.)

Operating procedures, cautions, etc. on removal, installation, disassembly and reassembly are described.

○—○ indicates that there is continuity between the terminals.
⊖···⊖ indicates terminals to which battery voltage is applied.

The title of the page (following the page on which the diagram of component parts is presented) indicating the locations of lubrication and sealing procedures.

HOW TO USE TROUBLESHOOTING/INSPECTION SERVICE POINTS <From 1994 models>

110003842

Troubleshooting of electronic control systems for which the scan tool can be used follows the basic outline described below. Furthermore, even in systems for which the scan tool cannot be used, part of these systems still follow this outline.

TROUBLESHOOTING CONTENTS

1. STANDARD FLOW OF DIAGNOSTIC TROUBLESHOOTING

The main procedures for diagnostic troubleshooting are shown.

2. SYSTEM OPERATION AND SYMPTOM VERIFICATION TESTS

If verification of the trouble symptoms is difficult, procedures for checking operation and verifying trouble symptoms are shown.

3. DIAGNOSTIC FUNCTION

The following diagnostic functions are shown.

- Method of reading diagnostic trouble codes
- Method of erasing diagnostic trouble codes
- Input inspection service points

4. INSPECTION CHART FOR DIAGNOSTIC TROUBLE CODES

5. INSPECTION PROCEDURE FOR DIAGNOSTIC TROUBLE CODES

Indicates the inspection procedures corresponding to each diagnostic trouble code. (Refer to P.00-8 – how to use the inspection procedures.)

6. INSPECTION CHART FOR TROUBLE SYMPTOMS

If there are trouble symptoms, even though the results of inspection using the scan tool show that all diagnostic trouble codes are normal, inspection procedures for each trouble symptom will be found by means of this chart.

7. INSPECTION PROCEDURE FOR DIAGNOSTIC SYMPTOM

Indicates the inspection procedures corresponding to each trouble symptoms classified in the Inspection Chart for Trouble Symptoms. (Refer to P.00-8 – how to use the inspection procedures.)

8. SERVICE DATA REFERENCE TABLE

Inspection items and normal judgement values have been provided in this chart as reference information.

9. CHECK AT ECU TERMINALS

Terminal numbers for the ECU connectors, inspection items and standard values have been provided in this chart as reference information.

Terminal Voltage Checks

1. Connect a needle-nosed wire probe or paper clip to a voltmeter probe.
2. Insert the needle-nosed wire probe into each of the ECU connector terminals from the wire side, and measure the voltage while referring to the check chart.

NOTE
1. Measure voltage with the ECU connectors connected.
2. You may find it convenient to pull out the ECU to make it easier to reach the connector terminals.
3. Checks don't have to be carried out in the order given in the chart.

Caution
Short-circuiting the positive (+) probe between a connector terminal and ground could damage the vehicle wiring, the sensor, the ECU, or all three.
Use care to prevent this!

3. If voltage readings differ from Normal Condition values, check related sensors, actuators, and wiring, then replace or repair.
4. After repair or replacement, recheck with the voltmeter to confirm that the repair has corrected the problem.

Terminal Resistance and Continuity Checks

1. Turn off the ignition switch.
2. Disconnect the ECU connector.
3. Measure the resistance and check for continuity between the terminals of the ECU harness-side connector while referring to the check chart.

NOTE
Checks don't have to be carried out in the order given in the chart.

Caution
If resistance and continuity checks are performed on the wrong terminals, damage to the vehicle wiring, sensors, ECU, and/or ohmmeter may occur.
Use care to prevent this!

4. If the ohmmeter shows any deviation from the Normal Condition value, check the corresponding sensor, actuator and related electrical wiring, then repair or replace.
5. After repair or replacement, recheck with the ohmmeter to confirm that the repair has corrected the problem.

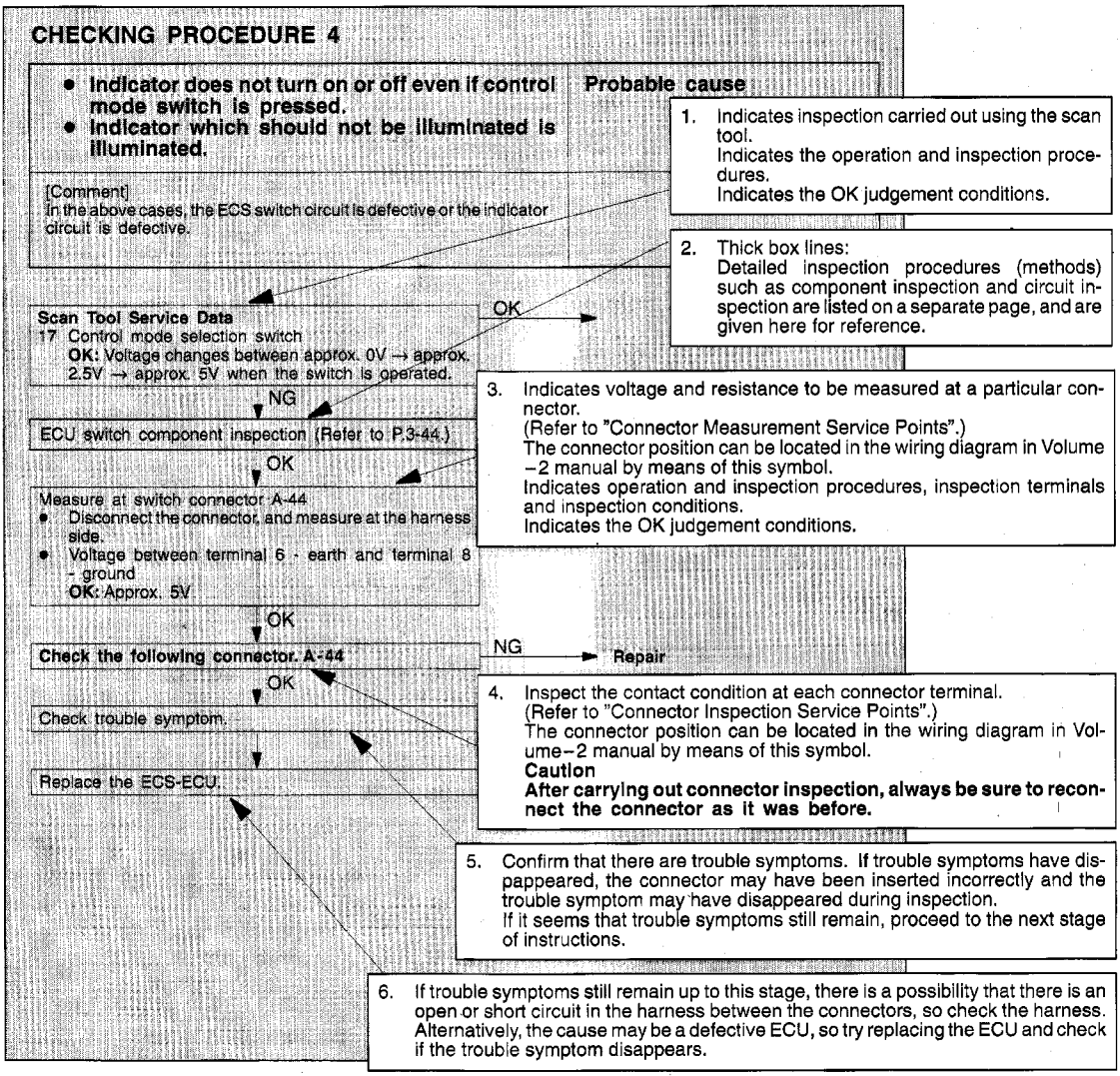
10. INSPECTION PROCEDURES USING AN OSCILLOSCOPE

When there are inspection procedures using an oscilloscope, these are listed here.

HOW TO USE THE INSPECTION PROCEDURES

110000009

The causes of a high frequency of problems occurring in electronic circuitry are generally the connectors, components, the ECU and the harnesses between connectors, in that order. These inspection procedures follow this order, and they first try to discover a problem with a connector or a defective component.


CHECKING PROCEDURE 4
• Indicator does not turn on or off even if control mode switch is pressed.
• Indicator which should not be illuminated is illuminated.
Probable cause
[Comment]
In the above cases, the ECS switch circuit is defective or the indicator circuit is defective.
Scan Tool Service Data
17 Control mode selection switch
OK: Voltage changes between approx. 0V → approx. 2.5V → approx. 5V when the switch is operated.
OK
NG
ECU switch component inspection (Refer to P.3-44.)
OK
Measure at switch connector A-44
• Disconnect the connector, and measure at the harness side.
• Voltage between terminal 6 - earth and terminal 8 - ground
OK: Approx. 5V
OK
Check the following connector. A-44
NG
Repair
OK
Check trouble symptom.
Replace the ECS-ECU.
1. Indicates inspection carried out using the scan tool.
Indicates the operation and inspection procedures.
Indicates the OK judgement conditions.
2. Thick box lines:
Detailed inspection procedures (methods) such as component inspection and circuit inspection are listed on a separate page, and are given here for reference.
3. Indicates voltage and resistance to be measured at a particular connector.
(Refer to "Connector Measurement Service Points".)
The connector position can be located in the wiring diagram in Volume –2 manual by means of this symbol.
Indicates operation and inspection procedures, inspection terminals and inspection conditions.
Indicates the OK judgement conditions.
4. Inspect the contact condition at each connector terminal.
(Refer to "Connector Inspection Service Points".)
The connector position can be located in the wiring diagram in Volume–2 manual by means of this symbol.
Caution
After carrying out connector inspection, always be sure to reconnect the connector as it was before.
5. Confirm that there are trouble symptoms. If trouble symptoms have disappeared, the connector may have been inserted incorrectly and the trouble symptom may have disappeared during inspection.
If it seems that trouble symptoms still remain, proceed to the next stage of instructions.
6. If trouble symptoms still remain up to this stage, there is a possibility that there is an open or short circuit in the harness between the connectors, so check the harness. Alternatively, the cause may be a defective ECU, so try replacing the ECU and check if the trouble symptom disappears.

HARNESS INSPECTION

Check for an open or short circuit in the harness between the terminals which were defective according to the connector measurements. Carry out this inspection while referring to Volume 2 Electrical manual. Here, "Check harness between power supply and terminal xx" also includes checking for blown fuses. For inspection service points when there is a blown fuse, refer to "Inspection Service Points for a Blown Fuse".

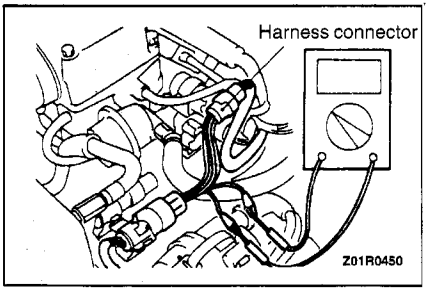
MEASURES TO TAKE AFTER REPLACING THE ECU

If the trouble symptoms have not disappeared even after replacing the ECU, repeat the inspection procedure from the beginning.

CONNECTOR MEASUREMENT SERVICE POINTS

110000010

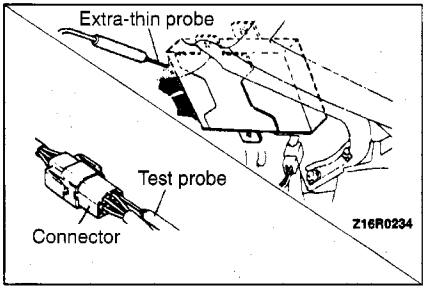
Turn the ignition switch to OFF when connecting and disconnecting the connectors, and turn the ignition switch to ON when measuring if there are no instructions to the contrary.



IF INSPECTING WITH THE CONNECTOR CONNECTED (WITH CIRCUIT IN A CONDITION OF CONTINUITY)

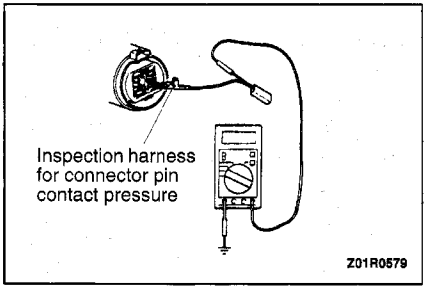
Waterproof Connectors

Be sure to use the special tool (harness connector). Never insert a test probe from the harness side, because to do so will reduce the waterproof performance and result in corrosion.



Ordinary (non-waterproof) Connectors

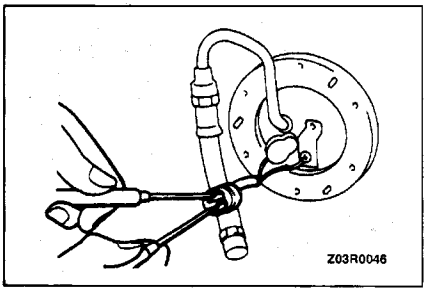
Check by inserting the test probe from the harness side. Note that if the connector (control unit, etc.) is too small to permit insertion of the test probe, it should not be forced; use a special tool (the extra-thin probe in the harness set for checking) for this purpose.



IF INSPECTING WITH THE CONNECTOR DISCONNECTED

<When Inspecting a Female Pin>

Use the special tool (inspection harness for connector pin contact pressure in the harness set for inspection).
The inspection harness for connector pin contact pressure should be used. The test probe should never be forcibly inserted, as it may cause a defective contact.



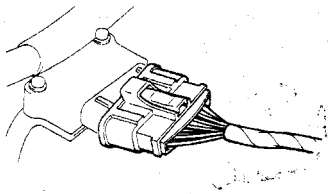
<When Inspecting a Male Pin>

Touch the pin directly with the test bar.

Caution

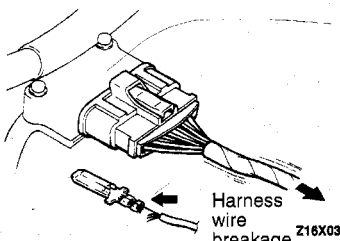
At this time, be careful not to short the connector pins with the test probes. To do so may damage the circuits inside the ECU.

Connector disconnected or improperly connected



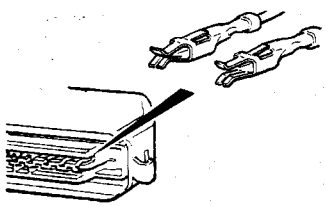
Z16S0256

Defective connector contact



Z16X0369

Low contact pressure



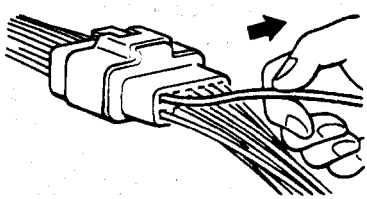
Z16S0254

CONNECTOR INSPECTION SERVICE POINTS

110000011

VISUAL INSPECTION

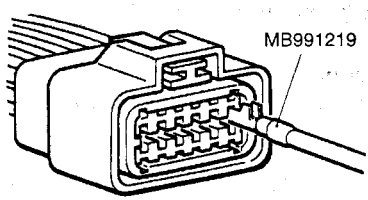
- Connector is disconnected or improperly connected
- Connector pins are pulled out
- Due to harness tension at terminal section
- Low contact pressure between male and female terminals
- Low connection pressure due to rusted terminals or foreign matter lodged in terminals



Z16R1317

CONNECTOR PIN INSPECTION

If the connector pin stopper is damaged, the terminal connections (male and female pins) will not be perfect even when the connector body is connected, because the pins may pull out of the back side of the connector. Therefore, gently pull the wires one by one to make sure that no pins pull out of the connector.



Z16R1318

CONNECTOR ENGAGEMENT INSPECTION

Use the special tool (connector pin connection pressure inspection harness of the inspection harness set) to inspect the engagement of the male pins and female pins. [Pin drawing force : 1 N (.2 lbs.) or more]

HOW TO COPE WITH INTERMITTENT MALFUNCTIONS

110000012

Most intermittent malfunctions occur under certain conditions. If those conditions can be identified, the cause will be easier to find.

TO COPE WITH INTERMITTENT MALFUNCTION;

1. **Ask the customer about the malfunction**

   Ask what it feels like, what it sounds like, etc. Then ask about driving conditions, weather, frequency of occurrence, and so on.

2. **Determine the conditions from the customer's responses**

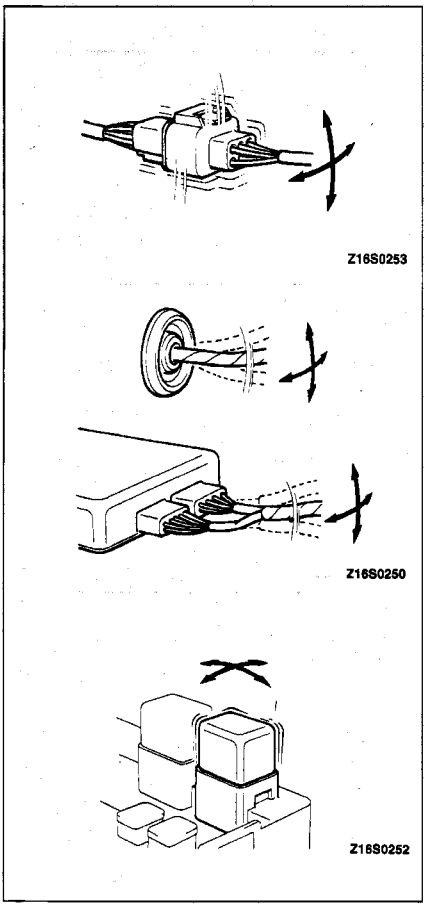
   Typically, almost all intermittent malfunctions occur from conditions like vibration, temperature and/or moisture change, poor connections. From the customer's replies, it should be reasoned which condition is influenced.

3. **Use simulation test**

   In the cases of vibration or poor connections, use the simulation tests below to attempt to duplicate the customer's complaint. Determine the most likely circuit(s) and perform the simulation tests on the connectors and parts of that circuit(s). Be sure to use the inspection procedures provided for diagnostic trouble codes and trouble symptoms.
   For temperature and/or moisture conditions related intermittent malfunctions, using common sense, try to change the conditions of the suspected circuit components, then use the simulation tests below.

4. **Verify the intermittent malfunction is eliminated**

   Repair the malfunctioning part and try to duplicate the condition(s) again to verify the intermittent malfunction has been eliminated.

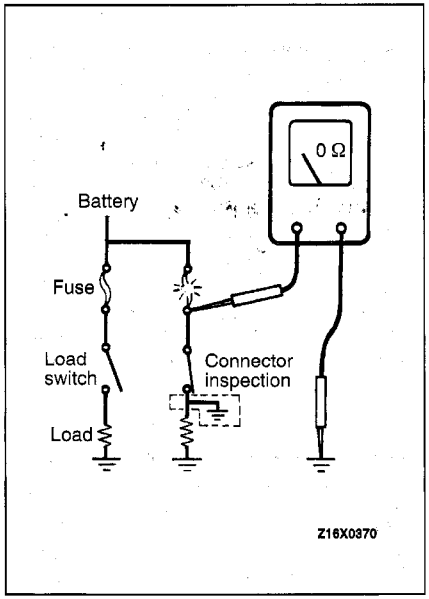


SIMULATION TESTS

For these simulation tests, shake, then gently bend, pull, and twist the wiring of each of these examples to duplicate the intermittent malfunction.

- Shake the connector up-and-down, and right-and-left.
- Shake the wiring harness up-and-down, and right-and-left.
- Vibrate the part or sensor.

NOTE
In case of difficulty in finding the cause of the intermittent malfunction, the data recorder function in the scan tool (MUT-II) is effective.



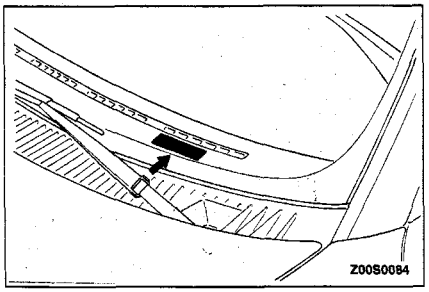
INSPECTION SERVICE POINTS FOR A BLOWN FUSE

110000013

Remove the fuse and measure the resistance between the load side of the fuse and ground. Set the switches of all circuits which are connected to this fuse to a condition of continuity. If the resistance is almost 0 Ω at this time, there is a short somewhere between these switches and the load. If the resistance is not 0 Ω, there is no short at the present time, but a momentary short has probably caused the fuse to blow.

The main causes of a short circuit are the following.

- Harness being clamped by the vehicle body
- Damage to the outer casing of the harness due to wear or heat
- Water getting into the connector or circuitry
- Human error (mistakenly shorting a circuit, etc.)



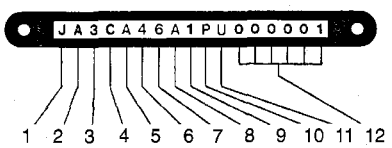
VEHICLE IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER LOCATION

110000014

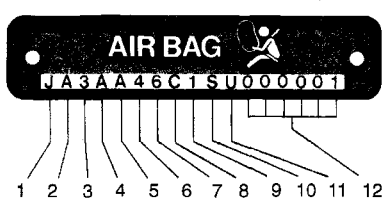
The vehicle identification number (V.I.N.) is located on a plate attached to the left top side of the instrument panel.

<1993 MODELS>



<1994 MODELS>

<From 1995 MODELS>



VEHICLE IDENTIFICATION CODE CHART PLATE

110003843

All vehicle identification numbers contain 17 digits. The vehicle number is a code which tells country, make, vehicle type, etc.

No.	Items	Contents
1	Country	J: Japan
2	Make	A: Mitsubishi
3	Vehicle type	3: Passenger car
4	Others	A: Driver and passenger air bags
		C: Automatic seat belt
		E: Driver air bag, Passenger automatic seat belt
5	Line	A: Mirage
6	Price class	1: Economy
		2: Low
		3: Medium
		4: High
7	Body	1: 2-door sedan
		6: 4-door sedan
8	Engine	A: 1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*2]
		C: 1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*3]
9	Check digits*1	1 2 3 4 5 6 7 8 9 X
10	Model year	P: 1993 year
		R: 1994 year
		S: 1995 year
		T: 1996 year
11	Plant	U: Mizushima plant
12	Serial number	000001 to 999999

NOTE
(1)*1: Check digit means a single number or letter X used to verify the accuracy of transcription of vehicle identification number.
(2)*2: 2 intake valves and 1 exhaust valve per cylinder
(3)*3: 2 intake valves and 2 exhaust valves per cylinder

VEHICLE IDENTIFICATION NUMBER LIST

110003844

<1993 MODELS>

2-DOOR MODELS FOR FEDERAL

V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3CA11A□PU	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*]	CA2ADNSEL2M
JA3CA21A□PU			CA2ADNMEL2M/KMEL2M
JA3CA31A□PU			CA2ADNDEL2M/KDEL2M

NOTE
*: 2 intake valves and 1 exhaust valve per cylinder

2-DOOR MODELS FOR CALIFORNIA

V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3CA11A□PU	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*]	CA2ADNSEL7M
JA3CA21A□PU			CA2ADNMEL7M/KMEL7M
JA3CA31A□PU			CA2ADNDEL7M/KDEL7M

NOTE
*: 2 intake valves and 1 exhaust valve per cylinder

4-DOOR MODELS FOR FEDERAL

V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3CA26A□PU	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*1]	CB2ASNMEL2M/KMEL2M
JA3CA36A□PU			CB2ASNDEL2M/KDEL2M
JA3CA36C□PU		1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*2]	CB5ASNDEL2M/RDEL2M
JA3CA46C□PU			CB5ASNJEL2M/RJEL2M

NOTE
*1: 2 intake valves and 1 exhaust valve per cylinder
*2: 2 intake valves and 2 exhaust valves per cylinder

4-DOOR MODELS FOR CALIFORNIA

V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3CA26A□PU	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*1]	CB2ASNMEL7M/KMEL7M
JA3CA36A□PU			
JA3CA36C□PU		1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*2]	CB5ASNDEL7M/RDEL7M
JA3CA46C□PU			CB5ASNJEL7M/RJEL7M

NOTE
*1: 2 intake valves and 1 exhaust valve per cylinder
*2: 2 intake valves and 2 exhaust valves per cylinder

<1994 MODELS>

2-DOOR MODELS FOR FEDERAL

V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3EA11A□RU	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*1]	CA2ADNSEL2M
JA3EA21A□RU			CA2ADNMEL2M/KMEL2M
JA3EA31A□RU			CA2ADNDEL2M/KDEL2M
JA3EA31C□RU		1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*2]	CA5ADNDEL2M/RDEL2M

NOTE
*1: 2 intake valves and 1 exhaust valve per cylinder
*2: 2 intake valves and 2 exhaust valves per cylinder

2-DOOR MODELS FOR CALIFORNIA

V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3EA11A□RU*3	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*1]	CA2ADNSEL7M
JA3EA21A□RU*3			CA2ADNMEL7M/KMEL7M
JA3EA31C□RU*3		1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*2]	CA5ADNDEL7M/RDEL7M

NOTE
*1: 2 intake valves and 1 exhaust valve per cylinder
*2: 2 intake valves and 2 exhaust valves per cylinder
*3 can also be sold in Federal States.

4-DOOR MODELS FOR FEDERAL

V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3EA26A□RU	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*1]	CB2ASNMEL2M/KMEL2M
JA3EA36A□RU			CB2ASKDEL2M
JA3EA36C□RU		1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*2]	CB5ASNDEL2M/RDEL2M
JA3EA46C□RU			CB5ASRJEL2M

NOTE
*1: 2 intake valves and 1 exhaust valve per cylinder
*2: 2 intake valves and 2 exhaust valves per cylinder

4-DOOR MODELS FOR CALIFORNIA

V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3EA26A□RU*3	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*1]	CB2ASNMEL7M/KMEL7M
JA3EA36A□RU*3			
JA3EA36C□RU*3		1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*2]	CB5ASNDEL7M/RDEL7M
JA3EA46C□RU*3			CB5ASRJEL7M

NOTE
*1: 2 intake valves and 1 exhaust valve per cylinder
*2: 2 intake valves and 2 exhaust valves per cylinder
*3 can also be sold in Federal States.

<1995 MODELS>

2-DOOR MODELS FOR FEDERAL

V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3AA11A□SU	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*1]	CA2ADNSEL2M/KSEL2M
JA3AA21A□SU			CA2ADNMEL2M/KMEL2M
JA3AA31A□SU			CA2ADNDEL2M/KDEL2M
JA3AA31C□SU		1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*2]	CA5ADNDEL2M/RDEL2M

NOTE
*1: 2 intake valves and 1 exhaust valve per cylinder
*2: 2 intake valves and 2 exhaust valves per cylinder

2-DOOR MODELS FOR CALIFORNIA

V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3AA11A□SU*3	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*1]	CA2ADNSEL7M/KSEL7M
JA3AA21A□SU*3			CA2ADNMEL7M/KMEL7M
JA3AA31C□SU*3		1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*2]	CA5ADNDEL7M/RDEL7M

NOTE
*1: 2 intake valves and 1 exhaust valve per cylinder
*2: 2 intake valves and 2 exhaust valves per cylinder
*3 can also be sold in Federal States.

4-DOOR MODELS FOR FEDERAL

V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3AA26A□SU	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*1]	CB2ASNMEL2M/KMEL2M
JA3AA36A□SU			CB2ASKDEL2M
JA3AA36C□SU		1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*2]	CB5ASNDEL2M/RDEL2M
JA3AA46C□SU			CB5ASRJEL2M

NOTE
*1: 2 intake valves and 1 exhaust valve per cylinder
*2: 2 intake valves and 2 exhaust valves per cylinder

4-DOOR MODELS FOR CALIFORNIA

V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3AA26A□SU*3	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*1]	CB2ASNMEL7M/KMEL7M
JA3AA36A□SU*3			
JA3AA36C□SU*3		1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*2]	CB5ASNDEL7M/RDEL7M
JA3AA46C□SU*3			

NOTE
*1: 2 intake valves and 1 exhaust valve per cylinder
*2: 2 intake valves and 2 exhaust valves per cylinder
*3 can also be sold in Federal States.

<1996 MODELS>

2-DOOR MODELS FOR FEDERAL

V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3AA11A□TU	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*1]	CA2ADNSEL2M/KSEL2M
JA3AA21A□TU			CA2ADNMEL2M/KMEL2M
JA3AA31A□TU			CA2ADNDEL2M/KDEL2M
JA3AA31C□TU		1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*2]	CA5ADNDEL2M/RDEL2M

NOTE
*1: 2 intake valves and 1 exhaust valve per cylinder
*2: 2 intake valves and 2 exhaust valves per cylinder

2-DOOR MODELS FOR CALIFORNIA

V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3AA11A□TU*3	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*1]	CA2ADNSEL7M/KSEL7M
JA3AA21A□TU*3			CA2ADNMEL7M/KMEL7M
JA3AA31C□TU*3		1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*2]	CA5ADNDEL7M/RDEL7M

NOTE
*1: 2 intake valves and 1 exhaust valve per cylinder
*2: 2 intake valves and 2 exhaust valves per cylinder
*3 can also be sold in Federal States.

4-DOOR MODELS FOR FEDERAL

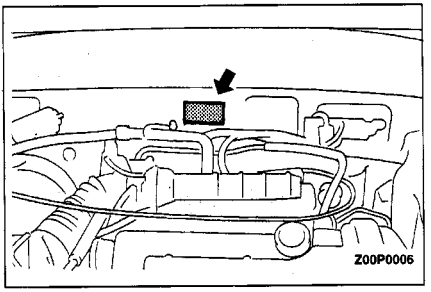
V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3AA26A□TU	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*1]	CB2ASNMEL2M/KMEL2M
JA3AA36A□TU			CB2ASKDEL2M
JA3AA36C□TU		1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*2]	CB5ASNDEL2M/RDEL2M
JA3AA46C□TU			CB5ASRJEL2M

NOTE
*1: 2 intake valves and 1 exhaust valve per cylinder
*2: 2 intake valves and 2 exhaust valves per cylinder

4-DOOR MODELS FOR CALIFORNIA

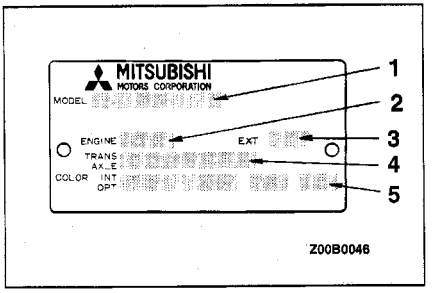
V.I.N. (except sequence number)	Brand	Engine displacement	Models code
JA3AA26A□TU*3	Mirage	1.5 dm^3 (89.6 cu.in.) [SOHC-MFI-12 valve*1]	CB2ASNMEL7M/KMEL7M
JA3AA36A□TU*3			
JA3AA36C□TU*3		1.8 dm^3 (111.9 cu.in.) [SOHC-MFI-16 valve*2]	CB5ASNDEL7M/RDEL7M
JA3AA46C□TU*3			

NOTE
*1: 2 intake valves and 1 exhaust valve per cylinder
*2: 2 intake valves and 2 exhaust valves per cylinder
*3 can also be sold in Federal States.

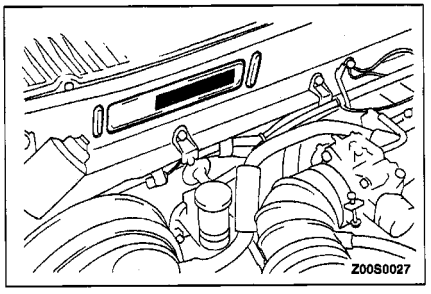


VEHICLE INFORMATION CODE PLATE 110003845

Vehicle information code plate is riveted onto the bulkhead in the engine compartment.
The place shows model code, engine model, transaxle model, and body color code.



No.	Items	Contents	
1	MODEL	CA2ADNSEL2M	CA2ADN: Vehicle model
			SEL2M: Model series
2	ENGINE	4G15	Engine model
3	EXT	CA6A	Exterior code
4	TRANS AXLE	F5M21	Transaxle model
5	COLOR, INT OPT	H84 87V 03V	H84: Body color code
			87V: Interior code
			03V: Equipment code

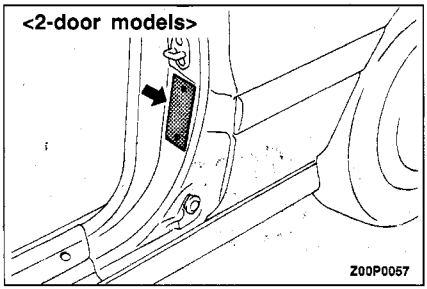


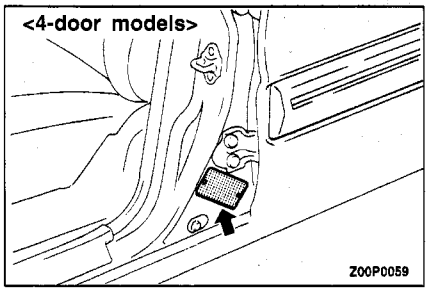
CHASSIS NUMBER 110003846

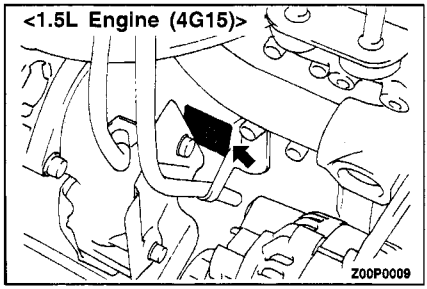
STAMPING LOCATION

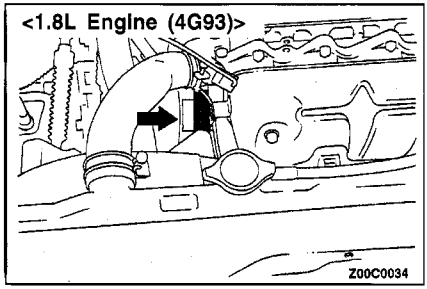
The chassis number is stamped on the top center of the firewall located in the engine compartment.

Chassis number code	Contents
CA2A RU100001	CA2A: MIRAGE
	RU100001: Refer to 10th thru 17th digits of V.I.N. plate









VEHICLE SAFETY CERTIFICATION LABEL

110000019

1. The vehicle safety certification label is attached to the face of left door pillar.
2. This label indicates the month and year of manufacture, Gross Vehicle Weight Rating (G.V.W.R.), Gross Axle Weight Rating (G.A.W.R.) front and rear and Vehicle Identification Number (V.I.N.).

ENGINE MODEL STAMPING

110003847

1. The engine model number is stamped at the front side on the top edge of the cylinder block as shown in the following:

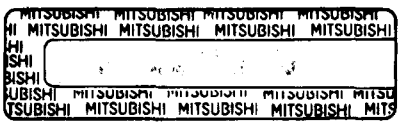
Engine model	Engine displacement
4G15	1.5 dm^3 (89.6 cu.in.) [SOHC-MPI-12 valve]
4G93	1.8 dm^3 (111.9 cu.in.) [SOHC-MPI-16 valve]

2. The engine serial number is stamped near the engine model number, and the serial number cycles, as shown below.

Engine serial number	AA0201 to YY9999

Theft protection label

For original parts



Z00K619

For replacement parts

Z00K621

THEFT PROTECTION <From 1994 models>

110003848

In order to protect against theft, a Vehicle Identification Number (V.I.N.) is stamped in, or attached as a label to, the following major parts of the engine and transaxle, as well as main outer panels:

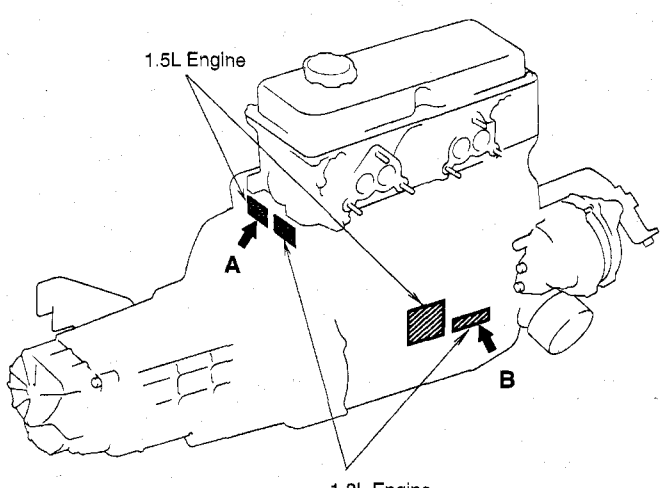
Engine cylinder block, Transaxle housing, Fender, Door, Quarter panel, Hood, Trunk lid, Bumpers

In addition, a theft-protection label is attached to replacement parts for the body outer panel main components, and the same data are stamped into replacement parts for the engine and the transaxle.

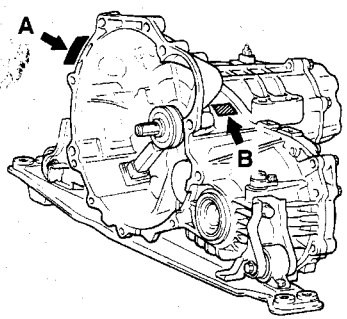
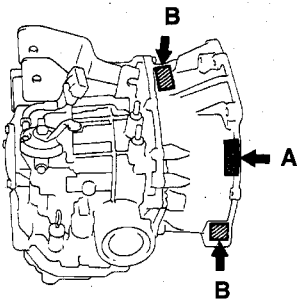
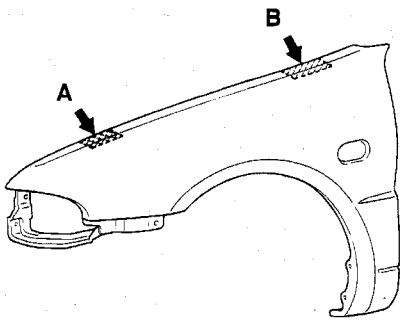
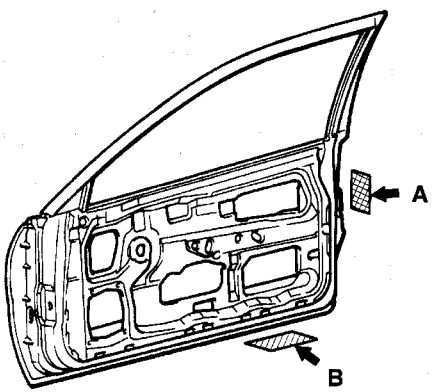
Cautions regarding panel repairs:

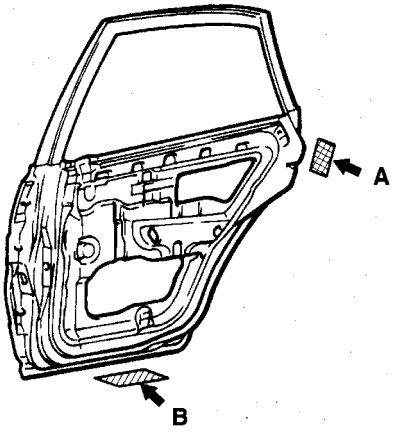
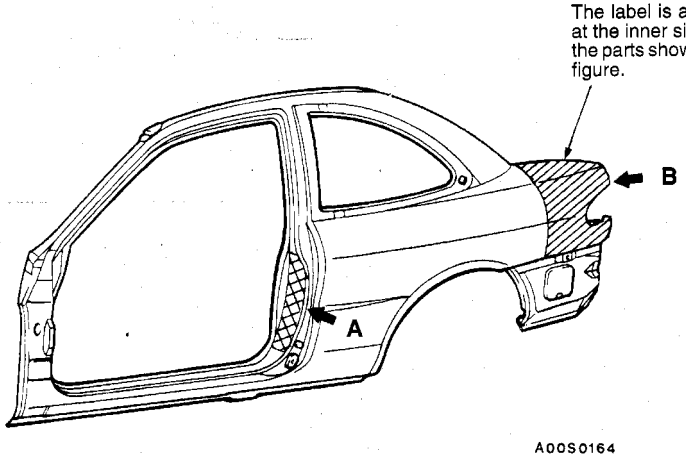
1. **When repainting original parts, do so after first masking the theft-protection label, and, after painting, be sure to peel off the masking tape.**
2. **The theft-protection label for replacement parts is covered by masking tape, so such parts can be painted as is. The masking tape should be removed after painting is finished.**
3. **The theft-protection label should not be removed from original parts or replacement parts.**

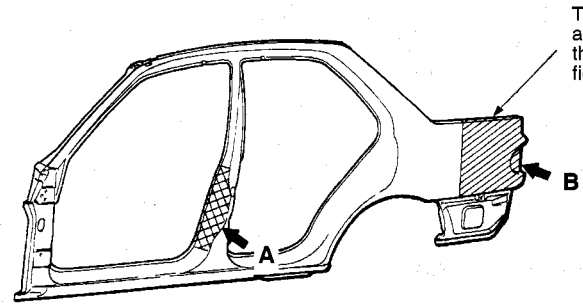
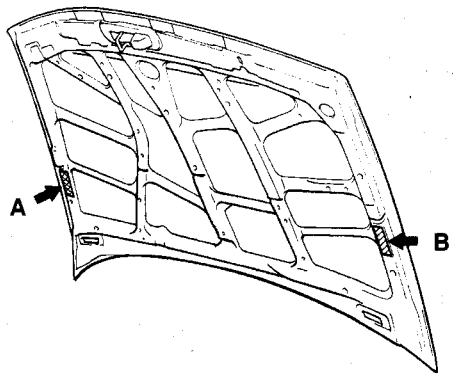
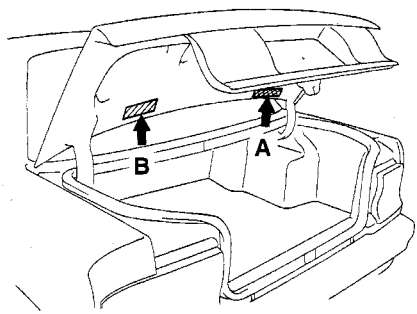
LOCATIONS

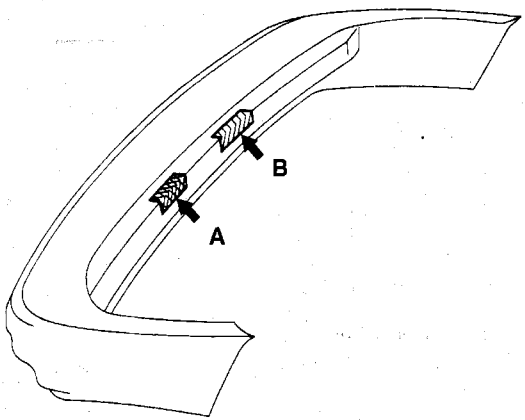
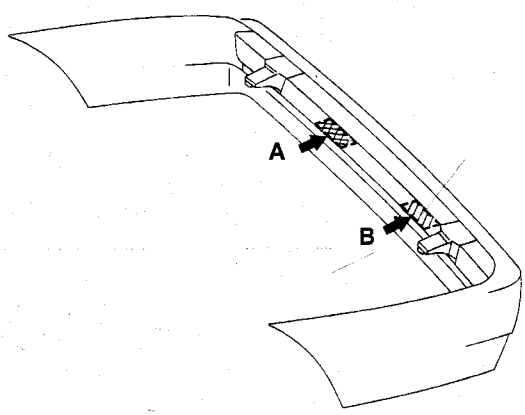
Part	Target area (A: for original equipment parts, B: for replacement parts)
Engine	

A01S0205

Part	Target area (A: for original equipment parts, B: for replacement parts)
Transaxle	Manual transaxle <F5M21, F5M22>  A09S0084 Automatic transaxle <F3A21, F4A22>  A04S0083
Fender	 The illustration indicates left hand side, outer. Right hand side is symmetrically opposite. A18S0442
Front door	<2 door model> <4 door model>  The illustration indicates left hand side, outer. Right hand side is symmetrically opposite. A00S0132

Part	Target area (A: for original equipment parts, B: for replacement parts)
Rear door	<4 door model>  A00S0131 The illustration indicates left hand side, outer. Right hand side is symmetrically opposite.
Quarter panel	<2 door model>  A00S0164 The illustration indicates left hand side, outer. Right hand side is symmetrically opposite.

Part	Target area (A: for original equipment parts, B: for replacement parts)
Quarter panel	<4 door model>  The illustration indicates left hand side, outer. Right hand side is symmetrically opposite. A00S0163
Hood	 A18S0441
Trunk lid	 A00S0130

Part	Target area (A: for original equipment parts, B: for replacement parts)
Front bumper	 A00S0128
Rear bumper	 A00S0129

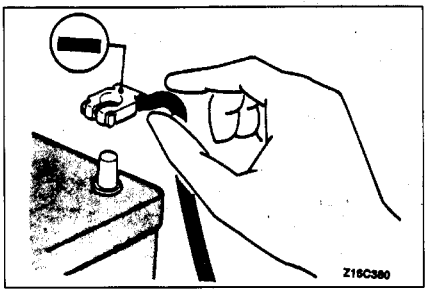
PRECAUTIONS BEFORE SERVICE

110003849

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) <From 1994 models>

1. Items to follow when servicing SRS
   (1) Be sure to read GROUP 52B – Supplemental Restraint System (SRS).
   For safe operations, please follow the directions and heed all warnings.
   (2) Always use the designated special tools and test equipment.
   (3) Wait at least 60 seconds after disconnecting the battery cable before doing any further work.
   The SRS system is designed to retain enough voltage to deploy the air bag even after the battery has been disconnected. Serious injury may result from unintended air bag deployment if work is done on the SRS system immediately after the battery cable is disconnected.
   (4) Never attempt to disassemble or repair the SRS components (front impact sensors, SRS air bag control unit, air bag module and clock spring). If faulty, replace it.
   (5) Warning labels must be heeded when servicing or handling SRS components. Warning labels are located in the following locations.
   - Hood
   - Sun visor
   - Glove box
   - SRS air bag control unit
   - Steering wheel
   - Air bag module
   - Clock spring
   - Steering gear and linkage clamp

   (6) Store components removed from the SRS in a clean and dry place.
   The air bag module should be stored on a flat surface and placed so that the pad surface is facing upward.
   Do not place anything on top of it.
   (7) Be sure to deploy the air bag before disposing of the air bag module or disposing of a vehicle equipped with an air bag. (Refer to GROUP 52B – Air Bag Module Disposal Procedures.)
   (8) Whenever you finish servicing the SRS, check the SRS warning light operation to make sure that the system functions properly.
2. Observe the following when carrying out operations on places where SRS components are installed, including operations not directly related to the SRS air bag.
   (1) When removing or installing parts do not allow any impact or shock to the SRS components.
   (2) SRS components should not be subjected to heat over 93°C (200°F), so remove the SRS components before drying or baking the vehicle after painting.
   After re-installing them, check the SRS warning light operation to make sure that the system functions properly.

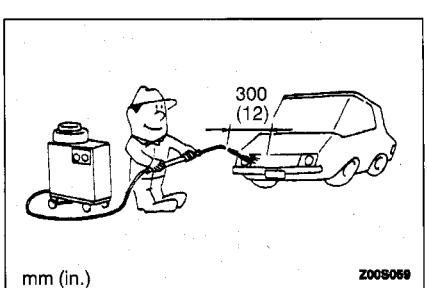


SERVICING ELECTRICAL SYSTEM 110000023

1. Note the following before proceeding with work on the electrical system.
   Note that the following must never be done:
   Unauthorized modifications of any electrical device or wiring, because such modifications might lead to a vehicle malfunction, over-capacity or short-circuit that could result in a fire in the vehicle.
2. When servicing the electrical system, disconnect the negative cable terminal from the battery.

   Caution
   1. **Before connecting or disconnecting the negative cable, be sure to turn off the ignition switch and the lighting switch.**
      (If this is not done, there is the possibility of semiconductor parts being damaged.)
   2. **After completion of the work steps [when the battery's negative (–) terminal is connected], warm up the engine and allow it to idle for approximately ten minutes under the conditions described below, in order to stabilize the engine control conditions, and then check to be sure that the idling is satisfactory.**

      Engine coolant temperature: 85–95°C (185–203°F)
      Lights, electric fans, accessories: OFF
      Transaxle: Neutral position
      (A/T models: "N" or "P")
      Steering wheel: neutral (center) position



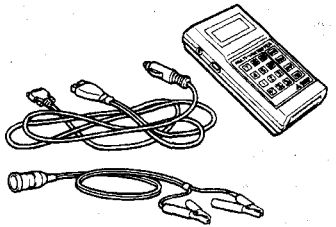
VEHICLE WASHING 110000024

If high-pressure car-washing equipment or steam car-washing equipment is used to wash the vehicle, be sure to maintain the spray nozzle at a distance of at least 300 mm (12 in.) from any plastic parts and all opening parts (doors, luggage compartment, etc.).

APPLYING RUST PREVENTIVES, UNDERCOAT, ETC.

Heated oxygen sensors have their functional efficiency decreased if they are smeared with oil or grease. When applying rust preventives, undercoat, etc., be sure to protect the heated oxygen sensor with a protective cover or the like.

Scan tool (Multi-use tester <MUT>)



ROM pack

SCAN TOOL (MUT) <Up to 1993 models>

110003850

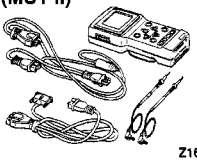
(1) To operate the scan tool, refer to the "Multi-use Tester Operation Instructions".

Caution
Connection and disconnection of the scan tool should always be made with the ignition switch in the OFF position.

(2) Always use a ROM pack that is appropriate for the vehicle.

ROM pack	Applicable Model
MB991466	1993 model

Scan tool (MUT-II)



Z16X0606

ROM pack

Z16X0607

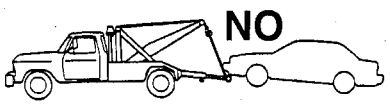
SCAN TOOL (MUT-II) <All models>

110003851

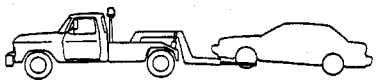
To operate the scan tool, refer to the "MUT-II OPERATING INSTRUCTIONS".

Caution
Connection and disconnection of the scan tool should always be made with the ignition switch in the OFF position.

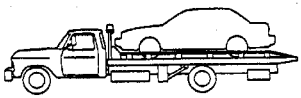
Sling type



Wheel lift type



Flat bed type



Z00F0027

TOWING AND HOISTING

110003852

WRECKER TOWING RECOMMENDATION

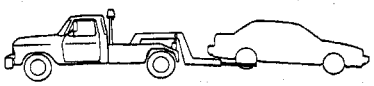
FRONT TOWING PICKUP

Caution
This vehicle cannot be towed by a wrecker using sling-type equipment to prevent the bumper from deformation.
If this vehicle is towed, use wheel lift or flat bed equipment.

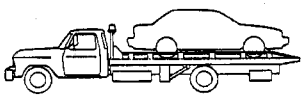
The vehicle may be towed on its rear wheels for extended distances provided the parking brake is released. It is recommended that vehicles be towed using the front pickup whenever possible.

Sling type

Wheel lift type



Flat bed type



Z00F0026

REAR TOWING PICKUP

Caution
This vehicle cannot be towed by a wrecker using sling-type equipment to prevent the bumper from deformation.
If this vehicle is towed, use wheel lift or flat bed equipment.

Manual transaxle vehicles may be towed on the front wheels, provided the transaxle is in neutral and the drive-line has not been damaged. The steering wheel must be clamped in the straight-ahead position with a steering wheel clamping device designed for towing service use.

Caution
1. **Do not use steering column lock to secure front wheel position for towing.**
*2. **Make sure the transaxle is in Neutral if vehicle will be with drive wheels on the ground.**

Automatic transaxle vehicle may be towed on the front wheels at speeds not to exceed 50 km/h (30 mph) for distances not to exceed 30 km (18 miles).

Caution
If these limits cannot be met, the front wheels must be placed on a tow dolly.

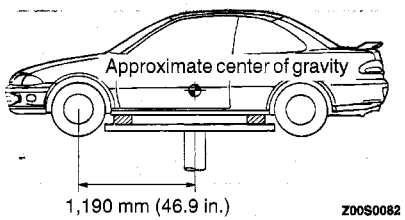
NOTE
*: <From 1994 models>

TOWING WHEN KEYS ARE NOT AVAILABLE

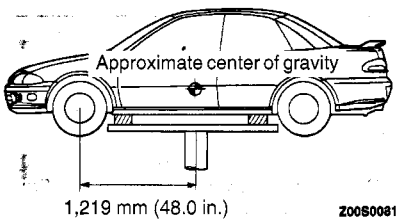
When a locked vehicle must be towed and keys are not available, the vehicle may be lifted and towed from the front, provided the parking brake is released. If not released, the rear wheels should be placed on a tow dolly.

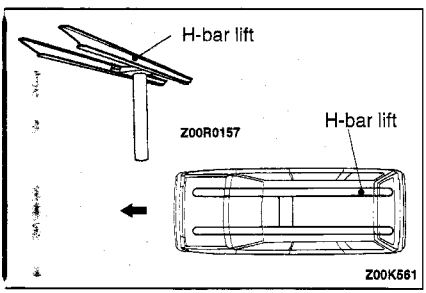
Frame contact support location

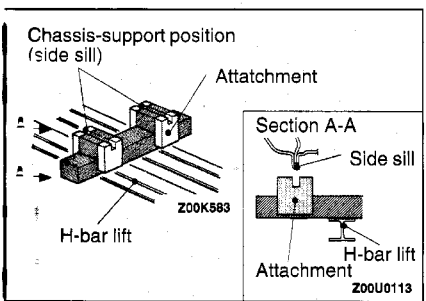
<2-door models>

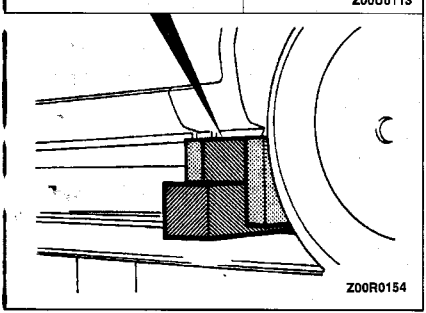


<4-door models>









SAFETY PRECAUTIONS

The following precautions should be taken when towing the vehicle.

1. DO NOT LIFT OR TOW THE VEHICLE BY ATTACHING TO OR WRAPPING AROUND THE BUMPER.
2. Any loose or protruding parts of damaged vehicle such as hoods, doors, fenders, trim, etc., should be secured or removed prior to moving the vehicle.
3. Operator should refrain from going under a vehicle while it is lifted by the towing equipment, unless the vehicle is adequately supported by safety stands.
4. Never allow passengers to ride in a towed vehicle.
5. State and local rules and regulations must be followed when towing a vehicle.

HOISTING

POST TYPE

Special care should be taken when raisig the vehicle on a frame contact type hoist. The hoist must be equipped with the proper adapters in order to support the vehicle at the proper locations.

Caution

When service procedures require removing rear suspension, fuel tank, spare tire and lift gate, place additional weight on rear end of vehicle or anchor vehicle to hoist to prevent tipping or center of gravity changes.

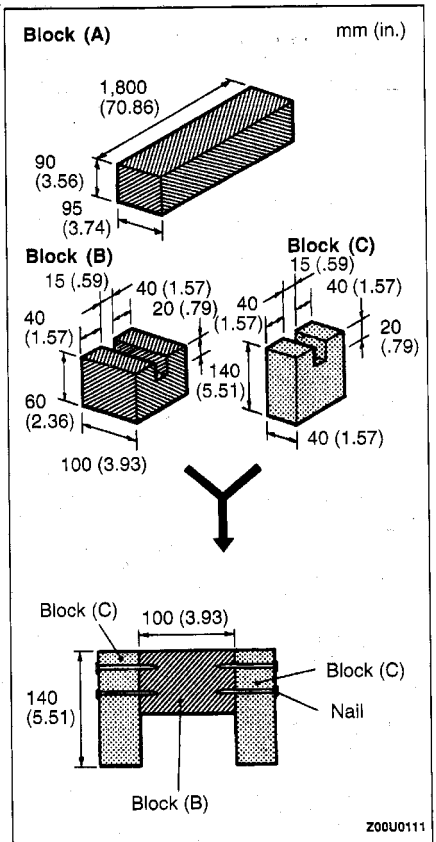
When H-bar lift is used to lift up vehicles, use of metallic attachment attached to the H-bar lift may cause damage to the suspension arm etc. Therefore, lift up the vehicle by the following procedure.

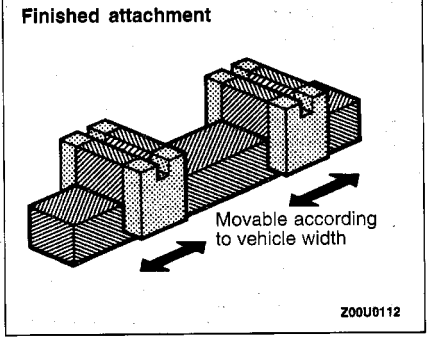
(1) Place the vehicle on the H-bar lift (same direction).
(2) Place attachments on the H-bar lift at the designated chassis-support positions. When making the attachmets, refer to the section concerning making them.

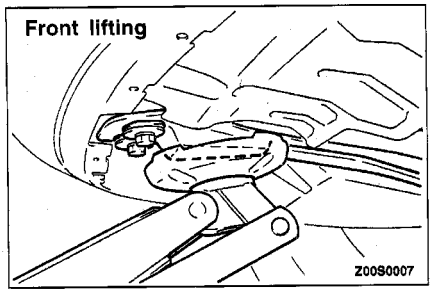
Caution

If support is at any location other than the designated positions, the body or suspension might be deformed or otherwise damaged, so care shoud be taken to support only at the correct (designated) positions.

(3) Raise the H-bar lift to the height at which the vehicle is slightly raised and check to be sure that the vehicle is correctly and sufficiently secured; then raise the vehicle.







"ATTACHMENTS" PREPARATION

(1) Prepare the blocks (wooden) and nails as shown in the figure.

Item	Dimensions mm (in.)	Q'ty
Block (A)	90 × 95 × 1,800 (3.54 × 3.74 × 70.86)	2
Block (B)	60 × 100 × 95 (2.36 × 3.93 × 3.74)	4
Block (C)	140 × 40 × 95 (5.51 × 1.57 × 3.74)	8
Nail	70 (2.76) or more	32

Caution
The wood selected for the blocks must be hard.

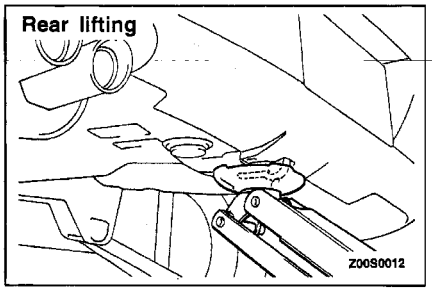
(2) For the (B) blocks and (C) blocks, use a saw and chisel or similar tool to make grooves of the dimensions shown in the figure.
(3) Make four "ATTACHMENTS" such as shown in the figure, nailing (B) and (C) blocks so that each (B) block is sandwiched between (C) blocks.

FLOOR JACK

A regular floor jack may be used under the mid point of center member, or the jack up bracket under the rear floor pan.

Caution
1. **Never use a jack at the rear floor crossmember or rear suspension assembly.**
2. **In order to prevent scarring the center member, place a piece of cloth on the jack's contact surface (to prevent corrosion caused by damage to the coating).**
3. **A floor jack must never be used on any part of the underbody.**

TSB Revision



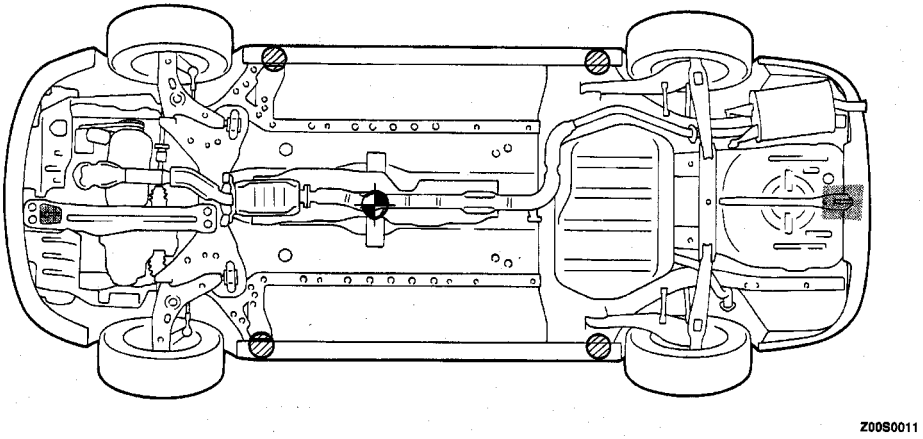
4. **Do not attempt to raise one entire side of the vehicle by placing a jack midway between front and rear wheels.**
   This practice may result in permanent damage to the body.

EMERGENCY JACKING

Jack receptacles are located at the body sills to accept the scissors jack supplied with the vehicle for emergency road service. Always block opposite wheels and jack on level surface.

LIFTING, JACKING SUPPORT LOCATION

110003853



Floor jack locations

Approximate center of gravity

Frame contact hoist, twin post hoist or scissors jack (emergency) locations

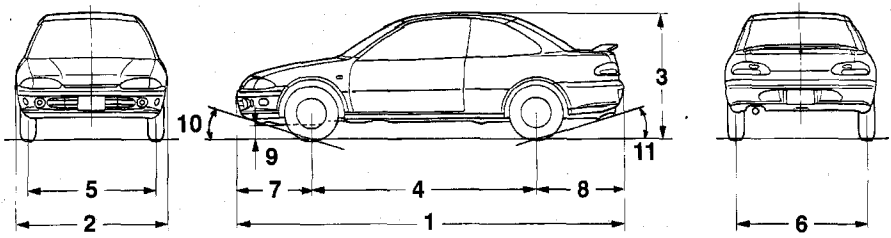
Caution

- **Never use a jack at the rear crossmember or rear suspension assembly.**
- **In order to prevent scarring the center member, place a piece of cloth on the jack's contactsurface (to prevent corrosion caused by damage to the coating).**
- **Never attempt to position a floor jack on any part of the vehicle underbody.**
- **Do not attempt to raise one entire side of the vehicle by placing a jack midway between the front and rear wheels. To do so could result in permanent damage to the body.**

GENERAL DATA AND SPECIFICATIONS

110003854

<2-DOOR MODELS>



Z00S0077

Items			CA2ADNSEL2M/7M	CA2ADNMEL2M/7M CA2ADKMEL2M/7M	CA2ADNDEL2M/7M CA2ADKDEL2M/7M	CA5ADNDEL2M*2/7M*2 CA5ADRDEL2M*2/7M*2
Vehicle dimensions mm (in.)	Overall length	1	4,345 (171.1)	4,345 (171.1)	4,345 (171.1)	4,345 (171.1)
	Overall width	2	1,680 (66.1) 1,690 (66.5)*1	1,680 (66.1) 1,690 (66.5)*1	1,680 (66.1) 1,690 (66.5)*1	1,680 (66.1) 1,690 (66.5)*1
	Overall height	3	1,360 (53.5)	1,360 (53.5)	1,360 (53.5)	1,360 (53.5)
	Wheel base	4	2,440 (96.1)	2,440 (96.1)	2,440 (96.1)	2,440 (96.1)
	Tread – Front	5	1,450 (57.1)	1,450 (57.1)	1,450 (57.1)	1,450 (57.1)
	Tread – Rear	6	1,460 (57.5)	1,460 (57.5)	1,460 (57.5)	1,460 (57.5)
	Overhang – Front	7	860 (33.9)	860 (33.9)	860 (33.9)	860 (33.9)
	Overhang – Rear	8	1,045 (41.1)	1,045 (41.1)	1,045 (41.1)	1,045 (41.1)
	Minimum running ground clearance	9	150 (5.9)	150 (5.9)	150 (5.9)	150 (5.9)
	Angle of approach degrees	10	17.7°	17.7°	17.7°	17.7°
	Angle of departure degrees	11	17.4°	17.4°	17.4°	17.4°
Vehicle weight kg (lbs.)	Curb weights		945 (2,083)	955 (2,105) or 970 (2,138)*	965 (2,127) or 980 (2,161)*	1,020 (2,249) or 1,035 (2,282)*
	Gross vehicle weight rating		1,450 (3,197)	1,450 (3,197)	1,450 (3,197)	1,450 (3,197)
	Gross axle weight rating – Front		830 (1,830)	830 (1,830)	830 (1,830)	830 (1,830)
	Gross axle weight rating – Rear		790 (1,742)	790 (1,742)	790 (1,742)	790 (1,742)
Seating capacity			5	5	5	5
Engine	Model No.		4G15	4G15	4G15	4G93
Transaxle	Model No.	Manual transaxle	F5M21	F5M21	F5M21	F5M22
		Automatic transaxle	–	F3A21	F3A21	F4A22

NOTE
*: <A/T>
*1: Vehicles with side protector molding
*2: <From 1994 models>

TSB Revision

Items		CA2ADNSEL2M/7M	CA2ADNMEL2M/7M CA2ADKMEL2M/7M	CA2ADNDEL2M/7M CA2ADKDEL2M/7M	CA5ADNDEL2M*1/7M*1 CA5ADRDEL2M*1/7M*1
Clutch	Type	Dry-single disc & diaphragm spring	Dry-single disc & diaphragm spring*	Dry-single disc & diaphragm spring*	Dry-single disc & diaphragm spring*
Chassis	Tire	P145/80R13	P155/80R13	P155/80R13, P165/80R13 or P175/70R13	P185/65R14
	Front suspension	Independent strut	Independent strut	Independent strut	Independent strut
	Rear suspension	Trailing arm type multi-link	Trailing arm type multi-link	Trailing arm type multi-link	Trailing arm type multi-link
	Front brake	Disc	Disc	Disc	Disc
	Rear brake	Drum	Drum	Drum	Drum
	Steering gear type	Rack and pinion	Rack and pinion	Rack and pinion	Rack and pinion
	Steering gear ratio	∞	∞	∞	∞
	Fuel tank capacity dm^3 (gals.)	50 (13.2)	50 (13.2)	50 (13.2)	50 (13.2)

NOTE
*: <M/T>
*1: <From 1994 models>

ENGINE SPECIFICATIONS

Items	4G15	4G93*
Type	In-line SOHC	In-line SOHC
Number of cylinders	4	4
Bore mm (in.)	75.5 (2.97)	81.0 (3.19)
Stroke mm (in.)	82.0 (3.23)	89.0 (3.50)
Piston displacement cm^3 (cu.in.)	1,468 (89.6)	1,834 (111.9)
Compression ratio	9.2	9.5
Firing order	1-3-4-2	1-3-4-2

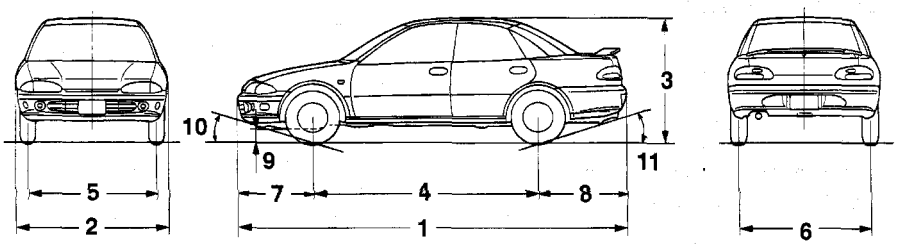
TRANSAXLE SPECIFICATIONS

Items		F5M21	F5M22*	F3A21	F4A22*
Type		5-speed M/T	5-speed M/T	3-speed A/T	4-speed A/T
Gear ratio	1st	3.454	3.363	2.846	2.846
	2nd	1.947	1.947	1.581	1.581
	3rd	1.285	1.285	1.000	1.000
	4th	0.939	0.939	–	0.685
	5th	0.777	0.777	–	–
	Reverse	3.083	3.083	2.176	2.176
Final drive gear ratio		3.752	4.021	3.600	4.007

NOTE
*: <From 1994 models>

TSB Revision

<4-DOOR MODELS>



Z00S0067

Items			CB2ASNMEL2M/7M CB2ASKMEL2M/7M CB2ASNDEL2M*2 CB2ASKDEL2M	CB5ASNDEL2M/7M CB5ASRDEL2M/7M	CB5ASNJEL2M*2/7M*2 CB5ASRJEL2M/7M
Vehicle dimensions mm (in.)	Overall length	1	4,375 (172.2)	4,375 (172.2)	4,375 (172.2)
	Overall width	2	1,680 (66.1) 1,690 (66.5)*1	1,680 (66.1) 1,690 (66.5)*1	1,680 (66.1) 1,690 (66.5)*1
	Overall height	3	1,380 (54.3)	1,380 (54.3)	1,380 (54.3)
	Wheel base	4	2,500 (98.4)	2,500 (98.4)	2,500 (98.4)
	Tread – Front	5	1,450 (57.1)	1,450 (57.1)	1,450 (57.1)
	Tread – Rear	6	1,460 (57.5)	1,460 (57.5)	1,460 (57.5)
	Overhang – Front	7	870 (34.3)	870 (34.3)	870 (34.3)
	Overhang – Rear	8	1,005 (39.6)	1,005 (39.6)	1,005 (39.6)
	Minimum running ground clearance	9	150 (5.9)	150 (5.9)	150 (5.9)
	Angle of approach degrees	10	17.3°	17.3°	17.3°
	Angle of departure degrees	11	17.8°	17.8°	17.8°
Vehicle weight kg (lbs.)	Curb weights		995 (2,194) or 1,010 (2,227)*	*31,040 (2,293) or *31,060 (2,337)* *21,020 (2,249) or *21,040 (2,293)*	*31,080 (2,381) *21,040 (2,293) or *21,060 (2,337)*
	Gross vehicle weight rating		1,550 (3,417)	1,550 (3,417)	1,550 (3,417)
	Gross axle weight rating – Front		830 (1,830)	830 (1,830)	830 (1,830)
	Gross axle weight rating – Rear		790 (1,742)	790 (1,742)	790 (1,742)
Seating capacity			5	5	5
Engine	Model No.		4G15	4G93	4G93
Trans-axle	Model No.	Manual transaxle	F5M21	F5M22	F5M22*2
		Automatic transaxle	F3A21	F4A22	F4A22

NOTE
*: <A/T>
*1: Vehicles with side protector molding
*2: <Up to 1993 models>
*3: <From 1994 models>

Items		CB2ASNMEL2M/7M CB2ASKMEL2M/7M CB2ASNDEL2M*3 CB2ASKDEL2M	CB5ASNDEL2M/7M CB5ASRDEL2M/7M	CB5ASNJEL2M*3/7M*3 CB5ASRJEL2M/7M
Clutch	Type	Dry-single disc & diaphragm spring*1	Dry-single disc & diaphragm spring*1	Dry-single disc & diaphragm spring*1
Chassis	Tire	P155/80R13	P175/70R13 or P185/70R13	P175/70R13 or P185/70R13
	Front suspension	Independent strut	Independent strut	Independent strut
	Rear suspension	Trailing arm type multi-link	Trailing arm type multi-link	Trailing arm type multi-link
	Front brake	Disc	Disc	Disc
	Rear brake	Drum	Drum	Drum or Disc*2
	Steering gear type	Rack and pinion	Rack and pinion	Rack and pinion
	Steering gear ratio	∞	∞	∞
	Fuel tank capacity dm^3 (gals.)	50 (13.2)	50 (13.2)	50 (13.2)

NOTE
*1: <M/T>
*2: <ABS>
*3: <Up to 1993 models>

ENGINE SPECIFICATIONS

Items	4G15	4G93
Type	In-line SOHC	In-line SOHC
Number of cylinders	4	4
Bore mm (in.)	75.5 (2.97)	81.0 (3.19)
Stroke mm (in.)	82.0 (3.23)	89.0 (3.50)
Piston displacement cm^3 (cu.in.)	1,468 (89.6)	1,834 (111.9)
Compression ratio	9.2	9.5
Firing order	1-3-4-2	1-3-4-2

TRANSAXLE SPECIFICATIONS

Items		F5M21	F5M22	F3A21	F4A22
Type		5-speed M/T	5-speed M/T	3-speed A/T	4-speed A/T
Gear ratio	1st	3.454	3.363	2.846	2.846
	2nd	1.947	1.947	1.581	1.581
	3rd	1.285	1.285	1.000	1.000
	4th	0.939	0.939	–	0.685
	5th	0.777	0.777	–	–
	Reverse	3.083	3.083	2.176	2.176
Final drive gear ratio		3.752	4.021	3.600	4.007

TSB Revision

TIGHTENING TORQUE

110000029

Each torque value in the table is a standard value for tightening under the following conditions.
(1) Bolts, nuts and washers are all made of steel and plated with zinc.
(2) The threads and bearing surface of bolts and nuts are all in dry condition.

The values in the table are not applicable:
(1) If toothed washers are inserted.
(2) If plastic parts are fastened.
(3) If bolts are tightened to plastic or die-cast inserted nuts.
(4) If self-tapping screws or self-locking nuts are used.

Standard bolt and nut tightening torque

Thread size		Torque Nm (ft.lbs.)		
Bolt nominal diameter (mm)	Pitch (mm)	Head mark "4"	Head mark "7"	Head mark "8"
M5	0.8	2.5 (1.8)	5 (3.6)	6 (4.3)
M6	1.0	5 (3.6)	9 (6.5)	10 (7.2)
M8	1.25	12 (8.7)	22 (16)	25 (18)
M10	1.25	24 (17)	44 (33)	52 (38)
M12	1.25	41 (30)	81 (60)	96 (71)
M14	1.5	72 (53)	137 (101)	157 (116)
M16	1.5	111 (82)	206 (152)	235 (174)
M18	1.5	167 (123)	304 (224)	343 (253)
M20	1.5	226 (166)	412 (304)	481 (354)
M22	1.5	304 (224)	559 (412)	647 (477)
M24	1.5	392 (289)	735 (542)	853 (629)

Flange bolt and nut tightening torque

Thread size		Torque Nm (ft.lbs.)		
Bolt nominal diameter (mm)	Pitch (mm)	Head mark "4"	Head mark "7"	Head mark "8"
M6	1.0	5 (3.6)	10 (7.2)	12 (8.7)
M8	1.25	13 (9.4)	24 (17)	28 (20)
M10	1.25	26 (19)	49 (36)	57 (42)
M10	1.5	24 (17)	44 (33)	54 (40)
M12	1.25	46 (34)	93 (69)	103 (76)
M12	1.75	42 (31)	81 (60)	96 (71)

LUBRICATION AND MAINTENANCE

110003855

Maintenance and lubrication service recommendations have been compiled to provide maximum protection for the vehicle owner's investment against all reasonable types of driving conditions.
Since these conditions vary with the individual vehicle owner's driving habits, the area in which the vehicle is operated and the type of driving to which the vehicle is subjected, it is necessary to prescribe lubrication and maintenance service on a time frequency as well as mileage interval basis.
Oils, lubricants and greases are classified and graded according to standards recommended by the Society of Automotive Engineers (SAE), the American Petroleum Institute (API) and the National Lubricating Grease Institute (NLGI).

MAINTENANCE SCHEDULES

Information for service maintenance is provided under "SCHEDULED MAINTENANCE TABLE".
Three schedules are provided; one for "Required Maintenance", one for "General Maintenance" and one for "Severe Usage Service".
The numbers of the items in "SCHEDULED MAINTENANCE TABLE" associate with the numbers of the sections in "MAINTENANCE SERVICE".

SEVERE SERVICE

Vehicles operating under severe service conditions will require more frequent service.
Component service information is included in appropriate units for vehicles operating under one or more of the following conditions:

1. Trailer towing or police, taxi, or commercial type operation
2. Operation of Vehicle
   (1) Short-trip operation at freezing temperature (engine not thoroughly warmed up)
   (2) More than 50% operation in heavy city traffic during hot weather above 32°C (90°F)
   (3) Extensive idling
   (4) Driving in sandy areas
   (5) Driving in salty areas
   (6) Driving in dusty conditions

ENGINE OIL

Either of the following engine oils should be used:
(1) Engine oil displaying EOLCS certification mark
(2) Engine oil conforming to the API classification SH ECII, SH/CD ECII, SG ECII or SG/CD ECII
For further details, refer to "LUBRICANTS SELECTION" section.

Caution
Test results submitted to EPA have shown that laboratory animals develop skin cancer after prolonged contact with used engine oil. Accordingly, the potential exists for humans to develop a number of skin disorders, including cancer, from such exposure to used engine oil. Care should be taken, therefore, when changing engine oil, to minimize the amount and length of exposure time to used engine oil on your skin. Protective clothing and gloves, that cannot be penetrated by oil, should be worn. The skin should be thoroughly washed with soap and water, or use waterless hand cleaner, to remove any used engine oil. Do not use gasoline, thinners, or solvents.

GEAR LUBRICANTS

The SAE grade number also indicates the viscosity of Multi-Purpose Gear Lubricants.
The API classification system defines gear lubricants in terms of usage. Typically gear lubricants conforming to API GL-4 or GL-5 with a viscosity of SAE 75W–85W are recommended for manual transaxle.

LUBRICANTS – GREASES

Semi-solid lubricants bear the NLGI designation and are further classified as grades 0, 1, 2, 3 etc.
Whenever "Chassis Lubricant" is specified, Multi-Purpose Grease, NLGI grade 2, should be used.

FUEL USAGE STATEMENT

Your car must use unleaded gasoline only.
This car has a fuel tank filler tube especially designed to accept only the smaller-diameter unleaded gasoline dispensing nozzle.

Caution
Using leaded gasoline in your car will damage the catalytic converter, oxygen sensors and affect the warranty coverage validity.

Your car is designed to operate on unleaded gasoline having a minimum octane rating of 87 or 91 RON (Research Octane Number).

Gasolines containing alcohol

Some gasolines sold at service stations contain alcohol, although they may not be so identified. Use of fuels containing alcohol is not recommended unless the nature of the blend can be determined as being satisfactory. Gasohol-A mixture of 10% ethanol (grain alcohol) and 90% unleaded gasoline may be used in your car. If driveability problems are experienced as a result of using gasohol, it is recommended that the car be operated on gasoline.

Methanol-Do not use gasolines containing methanol (wood alcohol). Use of this type of alcohol can result in vehicle performance deterioration and damage critical parts in the fuel system components. Fuel system damage and performance problems, resulting from the use of gasolines containing methanol, may not be covered by the new car warranty.

Gasolines containing MTBE (Methyl Tertiary Butyl Ether)

Unleaded gasoline containing 15% or less MTBE may be used in your car. (Fuel containing MTBE over 15% vol. may cause reduced engine performance and produce vapor lock or hard starting.)

MATERIALS ADDED TO FUEL

Indiscriminate use of fuel system cleaning agents should be avoided. Many of these materials intended for gum and varnish removal may contain highly active solvents or similar ingredients that can be harmful to gasket and diaphragm materials used in fuel system component parts.

RECOMMENDED LUBRICANTS AND LUBRICANT CAPACITIES TABLE

110003856

RECOMMENDED LUBRICANTS

Items	Recommended lubricants
Engine oil	Engine oil displaying EOLCS certification mark or conforming to the API classification SH ECII, SH/CD ECII, SG ECII or SG/CD ECII (For further details, refer to "LUBRICANTS SELECTION" section)
Manual transaxle	Hypoid gear oil SAE 75W–90 or 75W–85W conforming to API classification GL-4
Automatic transaxle	DIAMOND ATF SP or equivalent
Power steering	Automatic transmission fluid "DEXRON II"
Brake and clutch	Conforming to DOT 3 or DOT 4
Engine coolant	DIA-QUEEN LONG-LIFE COOLANT (Part No. 0103044) or high quality ethylene-glycol anti-freeze coolant
Door hinges, deck lid hinges	Engine oil

LUBRICANT CAPACITIES TABLE

Description			Metric measure	U.S. measure
Engine oil	1.5L Engine	Crankcase (excluding oil filter)	3.0 dm^3	3.2 qts.
		Oil filter	0.3 dm^3	1/2 qt.
	1.8L Engine	Crankcase (excluding oil filter)	3.5 dm^3	3.7 qts.
		Oil filter	0.3 dm^3	1/2 qt.
Cooling system (including heater and coolant reserve system)	1.5L Engine		5.0 dm^3	5.3 qts.
	1.8L Engine		6.0 dm^3	6.3 qts.
Manual transaxle			1.8 dm^3	1.9 qts.
Automatic transaxle			6.0 dm^3	6.3 qts.
Power steering			0.9 dm^3	1.9 pints
Fuel tank			50 dm^3	13.2 gals.

EOLCS certification mark

M03A015

1

LUBRICANTS SELECTION

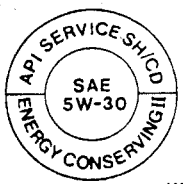
110003857

ENGINE OIL

Caution
Never use nondetergent or straight mineral oil.

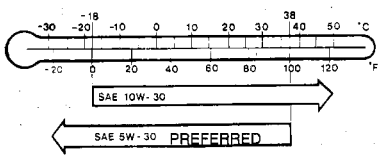
Oil Identification Symbol

Use only engine oils displaying the EOLCS certification mark on the container.



M03A014

If these oils are not available, an API classification SH ECII, SH/CD ECII, SG ECII or SG/CD ECII can be used.



M03B001

Oil Viscosity

The SAE grade number indicates the viscosity of the oil. A proper SAE grade number should be selected according to ambient temperature.

TSB Revision

SELECTION OF COOLANT

110000033

COOLANT

Relation between Antifreeze Concentration and Specific Gravity

Engine coolant temperature °C (°F) and specific gravity					Freezing temperature	Safe operating temperature	Engine coolant concentration (Specific volume)
10 (50)	20 (68)	30 (86)	40 (104)	50 (122)	°C (°F)	°C (°F)	%
1.054	1.050	1.046	1.042	1.036	–16 (3.2)	–11 (12.2)	30
1.063	1.058	1.054	1.049	1.044	–20 (–4)	–15 (5)	35
1.071	1.067	1.062	1.057	1.052	–25 (–13)	–20 (–4)	40
1.079	1.074	1.069	1.064	1.058	–30 (–22)	–25 (–13)	45
1.087	1.082	1.076	1.070	1.064	–36 (–32.8)	–31 (–23.8)	50
1.095	1.090	1.084	1.077	1.070	–42 (–44)	–37 (–35)	55
1.103	1.098	1.092	1.084	1.076	–50 (–58)	–45 (–49)	60

Example
The safe operating temperature is –15°C (5°F) when the measured specific gravity is 1.058 at the coolant temperature of 20°C (68°F).

Caution
1. **If the concentration of the coolant is below 30%, the anti-corrosion property will be adversely affected. In addition, if the concentration is above 60%, both the anti-freeze and engine cooling properties will decrease, affecting the engine adversely. For these reasons, be sure to maintain the concentration level within the specified range.**
2. **Do not use a mixture of different brands of anti-freeze.**

SCHEDULED MAINTENANCE TABLE

110003858

SCHEDULED MAINTENANCE SERVICES FOR EMISSION CONTROL AND PROPER VEHICLE PERFORMANCE

Inspection and services should be performed any time a malfunction is observed or suspected. Retain receipts for all vehicle emission services to protect your emission warranty.

No.	Emission control system *maintenance*	Service to be performed	Kilometers in thousands	24	48	72	96	120	144	168
			Mileage in thousands	15	30	45	60	75	90	105
1	Valve clearances	Check and adjust as required at		×	×	×	×	×	×	×
2	Fuel system (tank, pipe line and connection, and fuel tank *filler tube cap*)	Check for leaks Every 5 years or					×			
3	Fuel hoses	Check condition Every 2 years or			×		×		×	
4	Air cleaner element	Replace at			×		×		×	
5	Evaporative emission control system (except evaporative emission canister)*	Check for leaks and clogging Every 5 years or					×			
6	Spark plugs	Replace at			×		×		×	
7	Ignition cables*	Replace Every 5 years or					×			
8	Distributor cap and rotor*	Check Every 5 years or					×			

*: For California only <Up to 1993 models>

TSB Revision

GENERAL MAINTENANCE SERVICE FOR PROPER VEHICLE PERFORMANCE

No.	General maintenance		Service to be performed	Kilometers in thousands	24	48	72	96	120	144	160	168
				Mileage in thousands	15	30	45	60	75	90	100	105
9	Timing belt		Replace at					×*2			×*3	
10	Drive belt	for water pump and generator (1.5L Engine)	Check condition at			×		×		×		
		for generator (1.8L Engine)										
11	Engine oil		Change Every year or		Every 12,000 km (7,500 miles)							
12	Engine oil filter		Replace Every year or*4		×	×	×	×	×	×	×	×
13	Manual transmission oil		Check oil level at			×		×		×		
14	Automatic transmission fluid		Check fluid level Every year or		×	×	×	×	×	×	×	×
			Change fluid at			×		×		×		
15	Engine coolant		Change Every 2 years or			×		×		×		
16	Disc brake pads		Inspect for wear Every year or		×	×	×	×	×	×	×	×
17	Rear drum brake linings and rear wheel cylinders (except vehicles with disc brakes for all wheels)		Inspect for wear and leaks Every 2 years or			×		×		×		
18	Brake hoses		Check for deterioration or leaks Every year or		×	×	×	×	×	×	×	×
19	Ball joint and steering linkage seals		Inspect for grease leaks and damage Every 2 years or			×		×		×		
20	Drive shaft boots		Inspect for grease leaks and damage Every year or		×	×	×	×	×	×	×	×
*1 21	SRS air bag		Inspect System		At 10 years							
22	Exhaust system (Connection portion of muffler, pipings and converter heat shields)		Check and service as required Every 2 years or			×		×		×		

NOTE <1994 models>
1) SRS: Supplementally Restraint System
2) *1: <From 1994 models>
3) *2: For California, this maintenance is recommended but not required.
4) *3: Not required if belt was previously changed. <From 1995 models>
5) *4: If the mileage is less than 12,000 km (7,500 miles) each year, the oil filter should be replaced at every oil change. <From 1995 models>

SCHEDULED MAINTENANCE UNDER SEVERE USAGE CONDITIONS

The maintenance items should be performed according to the following table:

<Up to 1994 models>

No.	Maintenance item	Service to be performed	Kilometers in thousands	24	48	72	96	120	144	168	Severe usage conditions
			Mileage in thousands	15	30	45	60	75	90	105	
23	Engine oil	Change Every 3 months or		Every 4,800 km (3,000 miles)							A, B, C, D and G
24	Engine oil filter	Replace Every 6 months or		Every 9,600 km (6,000 miles)							A, B, C, D and G
25	Air cleaner element	Replace		More frequently							A and E
26	Spark plugs	Replace		×	×	×	×	×	×	×	B and D
27	Disc brake pads	Inspect for wear		More frequently							A and F
28	Rear drum brake linings and rear wheel cylinders (except vehicles with disc brakes for all wheels)	Inspect for wear and leaks		More frequently							A and F

Severe usage conditions

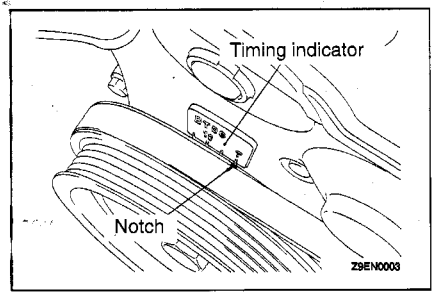
A – Driving in dusty conditions
B – Trailer towing or police, taxi, or commercial type operation
C – Extensive idling
D – Short-trip operation at freezing temperatures (engine not thoroughly warmed up)
E – Driving in sandy areas
F – Driving in salty areas
G – More than 50% operation in heavy city traffic during hot weather above 32°C (90°F)

<From 1995 models>

No.	Maintenance item	Service to be performed	Kilometers in thousands	24	48	72	96	120	144	168	Severe usage conditions
			Mileage in thousands	15	30	45	60	75	90	105	
11	Engine oil	Change Every 3 months or		Every 4,800 km (3,000 miles)							A, B, C, D and G
12	Engine oil filter	Replace Every 6 months or		Every 9,600 km (6,000 miles)							A, B, C, D and G
4	Air cleaner element	Replace		×	×	×	×	×	×	×	A and E
6	Spark plugs	Replace		×	×	×	×	×	×	×	B and D
13	Manual transmission oil	Change oil at			×		×		×		B, G and H
16	Disc brake pads	Inspect for wear Every 6 months or		Every 9,600 km (6,000 miles)							A and F
17	Rear drum brake linings and rear wheel cylinders (except vehicles with disc brakes for all wheels)	Inspect for wear and leaks Every year or		×	×	×	×	×	×	×	A and F

Severe usage conditions

A: Driving in dusty conditions
B: Trailer towing or police, taxi, or commercial type operation
C : Extensive idling, driving in stop and go traffic
D : Short-trip operation at freezing temperatures (engine not thoroughly warmed up)
E : Driving in sandy areas
F : Driving in salty areas
G : More than 50% operation in heavy city traffic or at sustained high speeds during hot weather above 32°C (90°F)
H : Driving on off-road

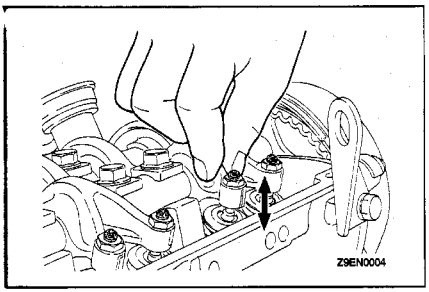


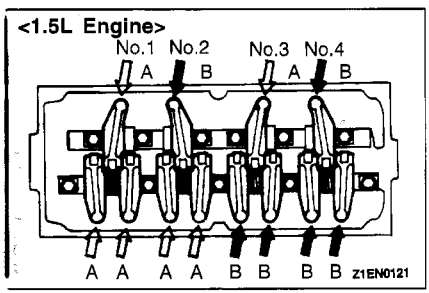
MAINTENANCE SERVICE

110003859

1. VALVE CLEARANCE (Check and adjust as required)

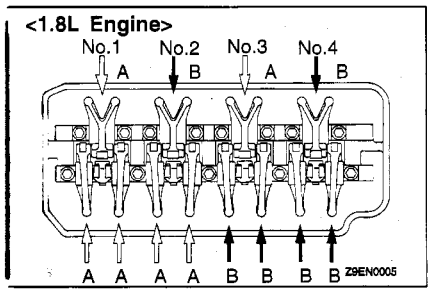
1. Start the engine and allow it to warm up until the engine coolant temperature reaches 80 to 95°C (176 to 203°F).
2. Remove all spark plugs from the cylinder head for easy inspection.
3. Remove the rocker cover.
4. Turn the crankshaft clockwise until the notch on the pulley is lined up with the "T" mark on the timing indicator.
5. Move the rocker arms on the No. 1 and No. 4 cylinders up and down by hand to determine which cylinder has its piston at the top dead center on the compression stroke. If both intake and exhaust valve rocker arms have a valve lash, the piston in the cylinder corresponding to these rocker arms is at the top dead center on the compression stroke.





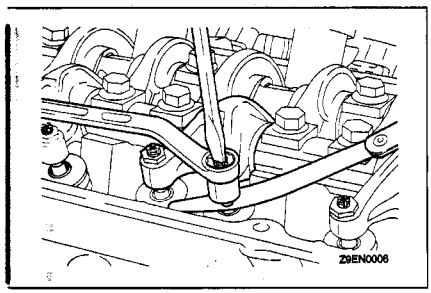
6. Valve clearance inspection and adjustment can be performed on rocker arms indicated by white arrows A when the No. 1 cylinder piston is at the top dead center on the compression stroke, and on rocker arms indicated by solid arrows B when the No. 4 cylinder piston is at the top dead center on the compression stroke.
7. Measure the valve clearance.
   If the valve clearance is not as specified, loosen the rocker arm lock nut and adjust the clearance using a feeler gauge while turning the adjusting screw.

   Standard value (hot engine):
   <1.5L Engine>
   Intake valve 0.20 mm (.008 in.)
   Exhaust valve 0.25 mm (.010 in.)
   <1.8L Engine>
   Intake valve 0.20 mm (.008 in.)
   Exhaust valve 0.30 mm (.012 in.)



8. While holding the adjusting screw with a screwdriver to prevent it from turning, tighten the lock nut to the specified torque.

   Tightening torque:
   <1.5L Engine> 15 Nm (11 ft.lbs.)
   <1.8L Engine> 9 Nm (7 ft.lbs.)



9. Turn the crankshaft through 360° to line up the notch on the crankshaft pulley with the "T" mark on the timing indicator.
10. Repeat steps 7. and 8. on other valves for clearance adjustment.
11. Install the rocker cover.
12. Install the spark plugs and tighten to 20–30 Nm (15–21 ft.lbs.).

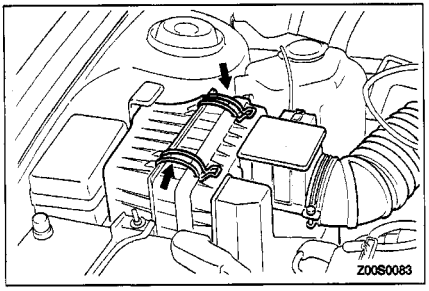
TSB Revision

2. FUEL SYSTEM (Tank, Pipe Line and Connection, and Fuel Tank Filler Tube Cap) (Check for leaks) 110003860

Check for damage or leakage in the fuel lines and connections and looseness of the fuel tank filler tube cap.

3. FUEL HOSES (Check condition)

1. Inspect the surface of fuel hoses for heat and mechanical damage. Hard and brittle rubber, cracking, checking, tears, cuts, abrasions and excessive swelling indicate deterioration of the rubber.
2. If the fabric casing of the rubber hose is exposed by cracks and abrasions in the fuel system, the hoses should be changed.



4. AIR CLEANER ELEMENT (Replace) 11000386

The air cleaner element will become dirty and loaded with dust during use, and the filtering effect will be substantially reduced. Replace it with a new one.

1. Unclasp the air cleaner cover clip.
2. Remove the air cleaner element and install a new one.
3. Be sure to close the air cleaner cover completely when clamping it.

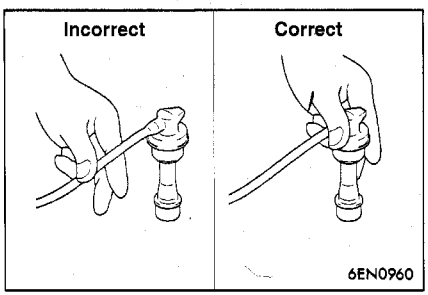
5. EVAPORATIVE EMISSION CONTROL SYSTEM (Check for leaks and clogging) – except evaporative emission canister 11000003

1. If the fuel-vapor vent line is clogged or damaged, a fuel vapor mixture escapes into the atmosphere causing excessive emissions. Disconnect the line at both ends, and blow it clean with compressed air. Remove the fuel tank filler tube cap from the fuel tank filler tube and check to see if there is evidence that the packing makes improper contact to the fuel tank filler tube.
2. The fuel tank pressure control valve installed on the vapor line should be checked for correct operation.

6. SPARK PLUGS (Replace) 110000038

1. Spark plugs must spark properly to assure proper engine performance and reduce exhaust emission level. Therefore, they should be replaced periodically with new ones.
2. The new plugs should be checked for the proper gap.

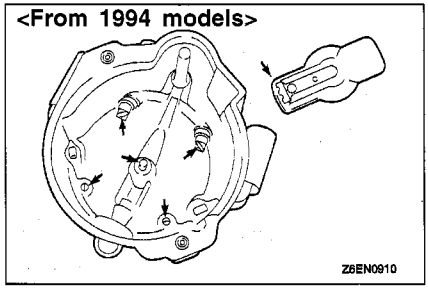
   Spark plug gap: 1.0–1.1 mm (.039–.043 in.)
3. Install the spark plug and tighten to 20–30 Nm (15–21 ft.lbs.).



7. IGNITION CABLES (Replace) 110000039

The ignition cables should be replaced periodically with new ones. After replacing, make sure that the ignition cables are routed properly and fully seated.

NOTE
When disconnecting an ignition cable, be sure to hold cable boot. If the cable is disconnected by pulling on the cable alone, an open circuit might result.



8. DISTRIBUTOR CAP AND ROTOR (Check) 110000040

Check the distributor cap and rotor to maintain driveability and reduce exhaust emissions.

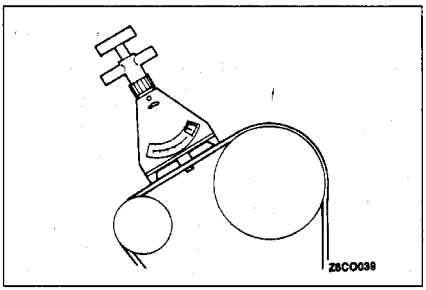
DISTRIBUTOR CAP AND ROTOR INSPECTION

Inspect in accordance with the following procedure. Repair or replace as necessary.

- Check the cap for cracks.
- Check the cap and rotor electrodes for damage.
- Wipe clean the cap and rotor.
- Clean the corrosion off the terminals inside the distributor cap.

9. TIMING BELT (Replace) 110003862

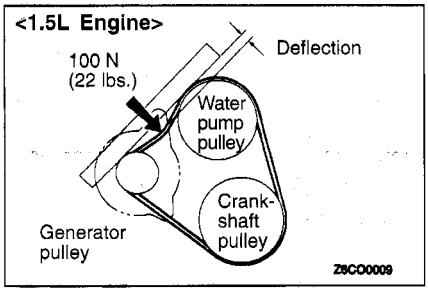
Replace the belt with a new one periodically to assure proper engine performance.
For disassembly and assembly procedures, refer to GROUP 11 – Timing Belt.

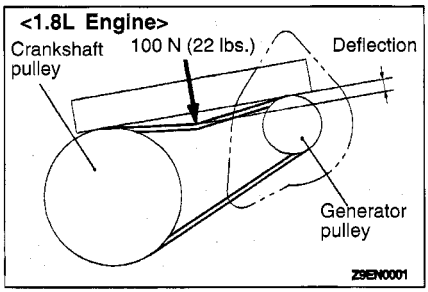


10. DRIVE BELT (For Water Pump and Generator) (Check condition) 110003863

Check the tension of the drive belt.
Inspect the drive belt for evidence of cuts and cracks, and replace it if defective.
With belt tension gauge set to the belt midway between the pulleys as shown in the illustration, check the belt tension for standard value. Or apply a force of 98 N (22 lbs.) to the belt to check the deflection for standard value.

TSB Revision





Standard value:

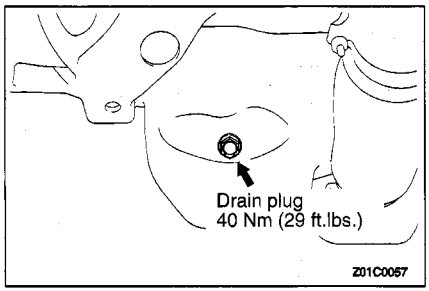
Tension N (lbs.)		250–500 (55–110)
Deflection mm (in.) (Reference value)	1.5L ENGINE	7.0–9.0 (.28–.35)
	1.8L ENGINE	8.5–12.0 (.34–.47)

11. ENGINE OIL (Change)

110003864

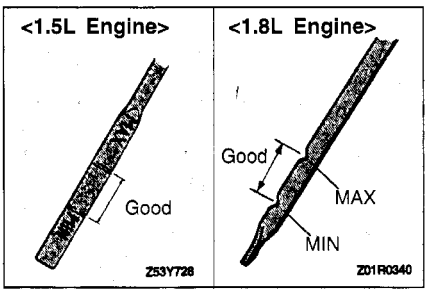
Use the specified oil. (Refer to P.00-39.)

Caution
Never use nondetergent or straight mineral oil.



1. After warming up the engine, remove the oil filler cap.
2. Remove the drain plug to allow the engine oil to drain.
3. Replace the drain plug gasket with a new one and tighten the drain plug.
4. Supply new engine oil through the oil filler.

   Engine oil total quantity:
   [including oil filter]
   <1.5L Engine> 3.3 dm^3 (3.5 qts.)
   <1.8L Engine> 3.8 dm^3 (4.0 qts.)



5. Start and run the engine a few minutes.
6. Stop the engine and check the engine oil level is within the level range indicated on the oil dip stick.

TSB Revision

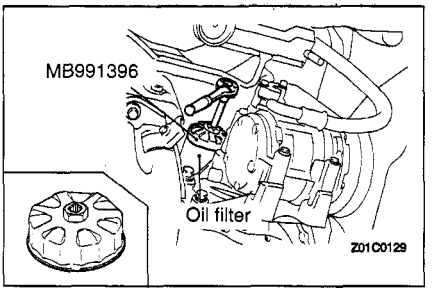
12. ENGINE OIL FILTER (Replace) 110003865

The quality of replacement filters varies considerably. Only high quality filters should be used to assure most efficient service.
Genuine oil filters require that the filter be capable of withstanding a pressure of 256 psi are high quality filters and are recommended as follows:

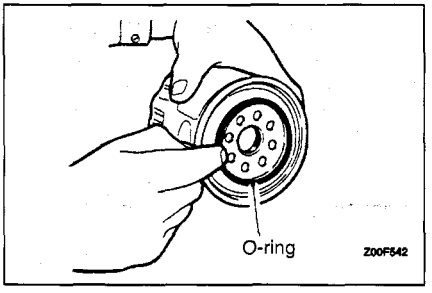
Oil Filter Part No.:
MITSUBISHI Genuine Parts MD135737 or equivalent

ENGINE OIL FILTER SELECTION

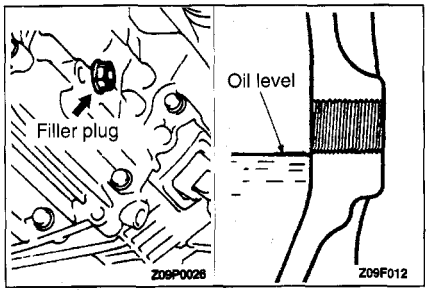
This vehicle is equipped with a full-flow, throw-away oil filter. The same type of replacement filter is recommended as a replacement filter for this vehicle. It is possible, particularly in cold weather, that this vehicle may develop high oil pressure for a short duration. You should be sure that any replacement filter used on this vehicle is a high-quality filter and is capable of withstanding a pressure of 256 psi (manufacturer's specifications) to avoid filter and engine damage. The following is a high-quality filter and is strongly recommended for use on this vehicle: Mitsubishi Engine Oil Filter Part No. MD135737. Any replacement oil filter should be installed in accordance with the oil filter manufacturer's specifications and installation instructions.



1. Remove the engine oil filter by using the oil filter wrench <1.5L Engine> or special tool <1.8L Engine>.
2. Clean the oil filter mounting surface of the oil filter bracket.



3. Apply engine oil to the O-ring of new oil filter.
4. Manually screw the oil filter into the oil filter bracket until the O-ring comes in contact with the flange surface. Then use an oil filter wrench <1.5L Engine> or special tool <1.8L Engine> to give one turn [tightening torque: 14 Nm (10 ft.lbs.)] to the filter.
5. Start and run engine and check for engine oil leaks.
6. Turn off engine, check oil level and top off as necessary.

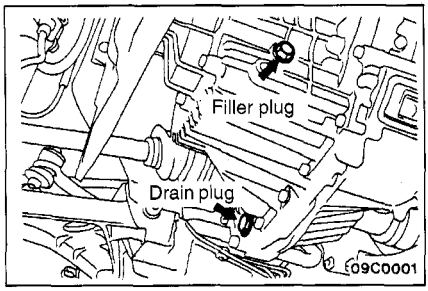


13. MANUAL TRANSMISSION OIL 110000045

Inspect oil level

Inspect each component for evidence of leakage, and check the oil level by removing the filler plug. If the oil is contaminated, it is necessary to replace it with new oil.

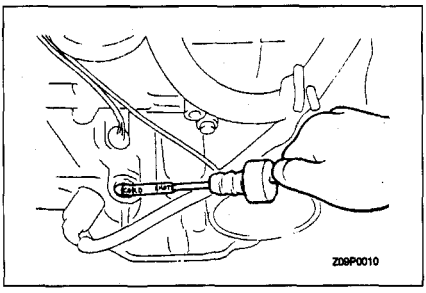
1. With the vehicle parked at a level place, remove the filler plug and check to be sure that the oil level is up to the lower edge of the filler plug hole.
2. Check to be sure that the transmission oil is not noticeably dirty, and that it has a suitable viscosity.



Change oil

1. Position vehicle on a flat level and remove filler and drain plugs to drain transaxle oil.
2. Pour in fresh transaxle oil through filler port until it reaches the bottom of filler port.

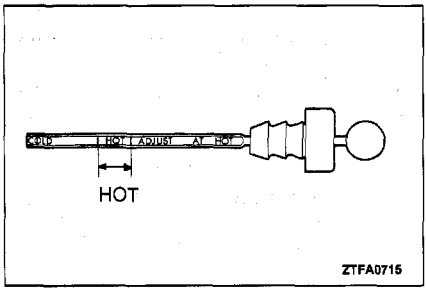
Transaxle oil: Hypoid gear oil SAE 75W-90 or 75W-85W conforming to API classification GL-4: 1.8 dm^3 (1.9 qts.)



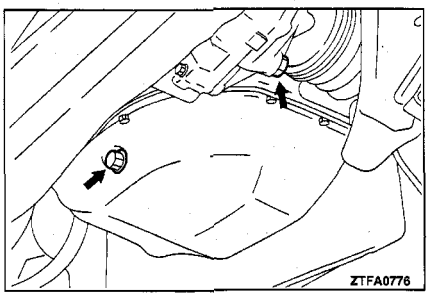
14. AUTOMATIC TRANSMISSION FLUID 110000046

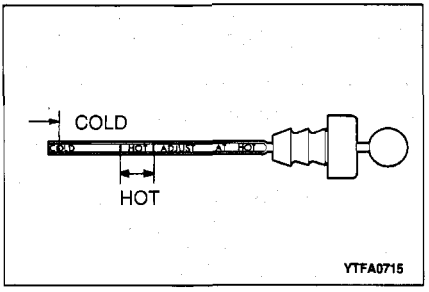
Inspect fluid level

1. Drive until the fluid temperature reaches the usual temperature [70–80°C (160–180°F)].
2. Place vehicle on level floor.
3. Move selector lever sequentially to every position to fill torque converter and hydraulic circuit with fluid, then place lever in "N" Neutral position. This operation is necessary to be sure that fluid level check is accurate.
4. Before removing dipstick, wipe all dirt from area around dipstick. Then take out the dipstick and check the condition of the fluid.
   Further investigation of the transaxle is necessary if,
   - the fluid smells burnt.
   - the fluid color is brown or black.
   - metal particles can be seen or felt on the dipstick.
5. Check to see if fluid level is in "HOT" range on dipstick. If fluid level is low, add ATF until level reaches "HOT" range.
   Low fluid level can cause a variety of conditions because it allows pump to take in air along with fluid. Air trapped in hydraulic circuit forms bubbles which make fluid spongy. Therefore, pressures will be erratic.
   Improper filling can also raise fluid level too high. When transaxle has too much fluid, gears churn up foam and cause same conditions which occur with low fluid level, resulting in accelerated deterioration of ATF.
   In either case, air bubbles can cause overheating, fluid oxidation, which can interfere with normal valve, clutch, and servo operation. Foaming can also result in fluid escaping from transaxle vent where it may be mistaken for a leak.
6. Be sure to examine fluid on dipstick closely.



TSB Revision





Change fluid

Drain the fluid and check whether there is any evidence of contamination.
Refill with new fluid after the cause of any contamination has bveen corrected.

1. Remove drain plugs to let fluid drain.
2. Remove the oil pan.
3. Check the oil filter for clogging and damage and replace if necessary.
4. Clean the inside of oil pan and magnets.
5. Attach the magnets to the concave part of the oil pan.
6. Clean both gasket surfaces of transaxle case and oil pan.
7. Install oil pan with new gasket and tighten oil pan bolts.

   Oil pan bolt: 11 Nm (8.0 ft.lbs.)
8. Tighten drain plug with gasket.

   Drain plug: 40 Nm (29 ft.lbs.)
9. Fill new ATF up to the COLD mark on the dipstick.

   Transmission fluid:
   DIAMOND ATF SP or equivalent
10. Start engine and allow to idle for at least two minutes. Then, with parking brake on, move selector lever momentarily to each position, ending in "N" Neutral position.
11. Check if ATF is filled up to the HOT mark on the dipstick.

15. ENGINE COOLANT (Change) 110003866

Check the cooling system parts, such as radiator, heater, and thermostat and connections for leakage and damage.

ANTIFREEZE

The engine cooling system is provided with a mixture of 50% ethylene glycol antifreeze and 50% water at the time of manufacture.
Since the cylinder head and water pump body are made of aluminum alloy casting, be sure to use a 30 to 60% ethylene glycol antifreeze coolant to provide corrosion protection and freezing prevention.

Caution
If the concentration of the antifreeze is below 30%, the anticorrosion property will be adversely affected. In addition, if the concentration is above 60%, both the antifreezing and engine cooling properties will decrease, adversely affecting the engine. For these reasons, be sure to maintain the concentration level within the specified range.

ANTIFREEZE CONCENTRATION MEASUREMENT

Run the engine until coolant is fully mixed. Drain some coolant (antifreeze), and measure temperature and specific gravity of the coolant. Determine concentration and safe working temperature. If the coolant is short of antifreeze, add antifreeze up to a concentration of 50%.

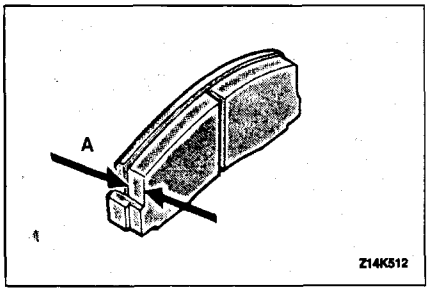
CHANGING COOLANT

1. Set the temperature control lever to the hot position.
2. Remove the radiator cap, radiator drain plug and engine drain plug to drain the coolant.

   Caution
   When removing the radiator cap, use care to avoid contact with hot coolant or steam. Place a shop towel over the cap and turn the cap counterclockwise a little to let pressure escape through the vinyl tube. After relieving the steam pressure, remove the cap by slowly turning it counterclockwise.

3. Remove the reserve tank and drain the coolant.
4. After draining coolant completely, reinstall the drain plugs and flush the engine and radiator using a radiator cleaning fluid.
5. After the flushing is completed, completely drain the cleaning fluid and install the radiator and engine drain plugs.
6. By referring to the section on coolant (P.00-39), select an appropriate concentration for safe operating temperature within the range of 30 to 60%. Refill the system with a high quality ethylene glycol antifreeze at the selected concentration. A convenient mixture is a 50% water and 50% antifreeze solution [Freezing point: –36°C (–32.8°F)]. Reinstall the radiator cap.
7. After running the engine a while, check the coolant level and add coolant until the specified coolant level is maintained.
8. Add coolant to the reserve tank between the "FULL" and "LOW" mark if necessary.

   Caution
   Do not overfill the reserve tank.



16. DISC BRAKE PADS (Inspect for wear)

110000048

Check for fluid contamination and wear. Replace complete set of pads if defective.

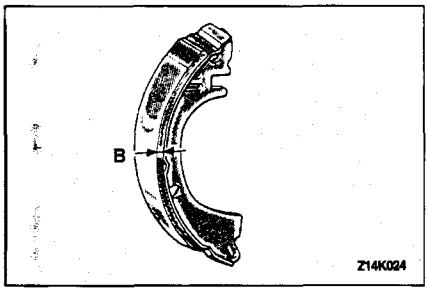
Thickness of lining (A): Limit 2.0 mm (.08 in.)

Caution
The pads for the right and left wheels should be replaced at the same time. Never "split" or intermix brake pad sets. All four pads must be replaced as a complete set.

17. REAR DRUM BRAKE LININGS AND REAR WHEEL CYLINDERS (except vehicles with disc brakes for all wheels) (Inspect for wear and leaks)

110003867

1. Remove the brake drum and check the thickness of brake shoe lining for wear. Check the automatic brake adjusting system by hand to see if it operates smoothly. Also see if the gears are in proper mesh with each other. To assure smooth operation, apply a very thin coat of multipurpose grease to the friction surface of adjuster and link shaft.
2. Inspect the wheel cylinder boots for evidence of a brake fluid leak. Visually check the boots for cuts, tears or heat cracks. (A slight amount of fluid on the boot may not be a leak, but may be preservative fluid used at assembly.)



(1) Check the brake shoes for wear

Caution <From 1994 models>
The shoes for the right and left wheels should be replaced at the same time.
Never split or intermix brake shoe sets.
All four shoes must be replaced as a complete set.

Thickness of lining (B): Limit 1.0 mm (.04 in.)

18. BRAKE HOSES (Check for deterioration or leaks)

110000050

Inspection of brake hoses and tubing should be included in all brake service operations.
The hoses should be checked for:

1. Correct length, severe surface cracking, pulling, scuffing or worn spots. (If the fabric casing of the hoses is exposed by cracks or abrasion in the rubber hose cover, the hoses should be replaced. Eventual deterioration of the hose may occur with possible bursting failure.)
2. Faulty installation, twisted casing or interference with wheel, tire or chassis.

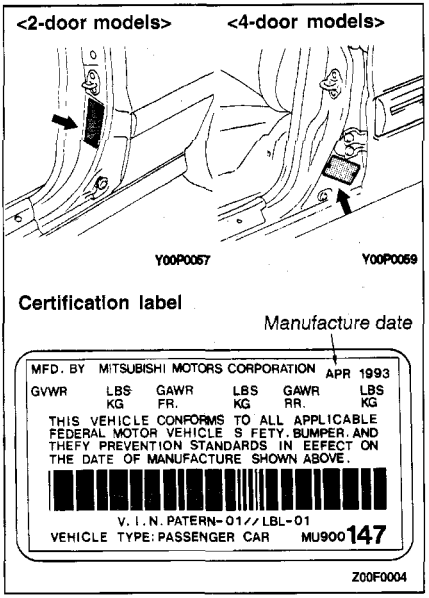
19. BALL JOINT AND STEERING LINKAGE SEALS (Inspect for grease leaks and damage)

110000051

1. These components, which are permanently lubricated at the factory, do not require periodic lubrication. Damaged seals and boots should be replaced to prevent leakage or contamination of the grease.
2. Inspect the dust cover and boots for proper sealing, leakage and damage. Replace them if defective.

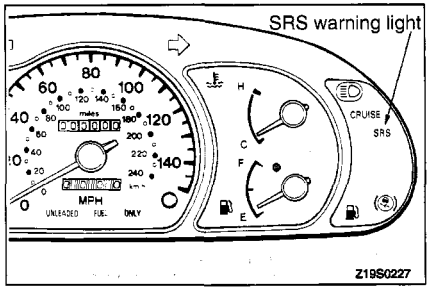
20. DRIVE SHAFT BOOTS (Inspect for grease leaks and damage) 110000052

1. These components, which are permanently lubricated at the factory, do not require periodic lubrication. Damaged seals and boots should be replaced to prevent leakage or contamination of the grease.
2. Inspect the dust cover and boots for proper sealing, leakage and damage. Replace them if defective.


<2-door models>
<4-door models>
Y00P0057
Y00P0059
Certification label
Manufacture date
MFD. BY MITSUBISHI MOTORS CORPORATION APR 1993
GVWR LBS KG GAWR FR. LBS KG GAWR RR. LBS KG
THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE S FETY. BUMPER. AND THEFY PREVENTION STANDARDS IN EEFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.
V. I. N. PATERN-01// LBL-01
VEHICLE TYPE: PASSENGER CAR MU900147
Z00F0004

21. SRS MAINTENANCE (SRS component check: damage, function, connection to wiring harness, etc.) <From 1994 models> 110003868

The SRS must be inspected by an authorized dealer 10 years after the car manufacture date shown on the certification label located on left front door latch post.



1. "SRS" WARNING LIGHT CHECK

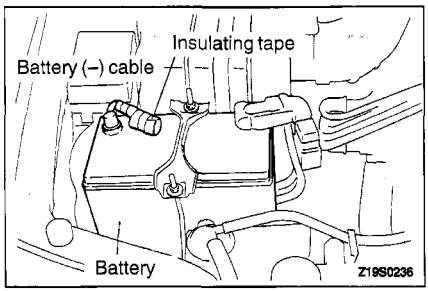
When the ignition key is turned to "ON" or engine started, the "SRS" warning light will illuminate for about 7 seconds and then turn off.
This means that the system is functioning properly.

2. SRS COMPONENTS VISUAL CHECK

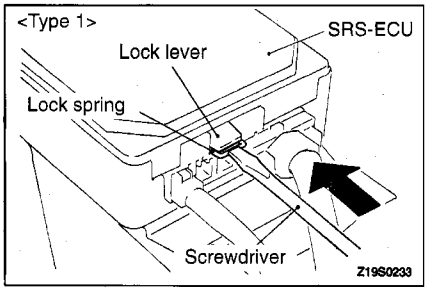
(1) Turn the ignition key to the "LOCK" position, disconnect the negative battery cable and tape the terminal.

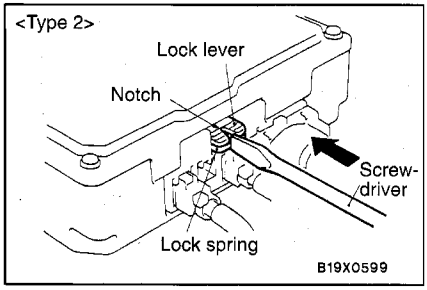
Caution
Wait at least 60 seconds after disconnecting the battery cable before doing any further work. The SRS system is designed to retain enough voltage to deploy the air bag even after the battery has been disconnected. Serious injury may result from unintended air bag deployment if work is done on the SRS system immediately after the battery cable is disconnected.

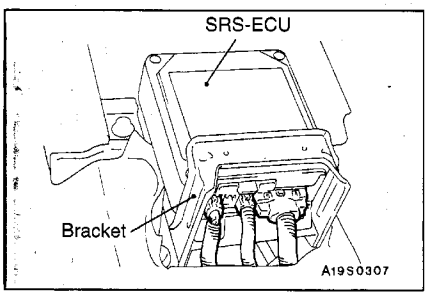
(2) Remove the rear console assembly. (Refer to GROUP 52A – Floor Console.)

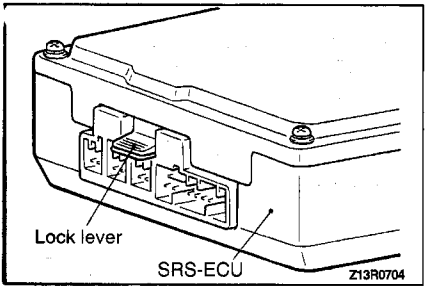


TSB Revision









(3) Remove the SRS-ECU connector lock by the following procedure.
If there is no notch in the connector lock lever (Type 1).
Place a flat tip screwdriver against the lock spring (metal section) of the connector lock lever as shown in the illustration, and push the spring horizontally toward the inside of the unit.

Caution
1. Do not use excessive force to raise the lock lever.
2. Do not insert the screwdriver into the gap between the lock lever and the lock spring.

If there is a notch in the connector lock lever (Type 2).
Place a flat tip screwdriver against the lock spring (metal section) at the lock lever notch as shown in the illustration, and push the spring toward the unit.

Caution
Do not use excessive force to raise the lock lever.

(4) Disconnect the red 14-pin connector from the SRS air bag control unit while pressing down the lock of the connector.

2-1 SRS Air Bag Control Unit (SRS-ECU)

(1) Check SRS-ECU case and brackets for dents, cracks, deformities or rust.

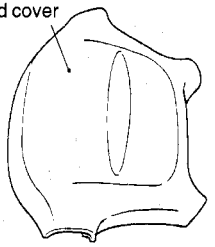
Caution
The SRS may not activate properly if SRS air bag control unit is not installed properly, which could result in serious injury or death to the vehicle's driver.

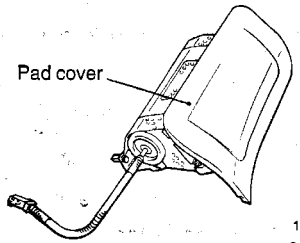
(2) Check connectors and lock lever for damage, and terminals for deformities or rust.
Replace SRS-ECU if it fails visual check. [Refer to GROUP 52B – SRS Air Bag Control Unit (SRS-ECU).]

2-2 Air Bag Module, Steering Wheel and Clock Spring

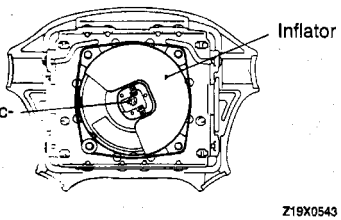
(1) Remove air bag module, steering wheel and clock spring. (Refer to GROUP 52B – Air Bag Module and Clock Spring.)

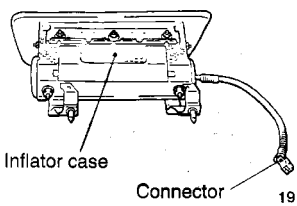
Caution
The removed air bag module should be stored in a clean, dry place with the pad cover face up.

<Driver's side>


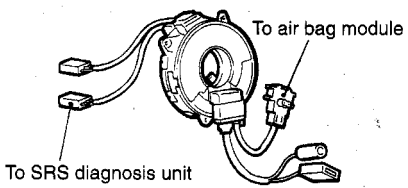
<Front passenger's side>


(2) Check pad cover for dents, cracks or deformities.

<Driver's side>


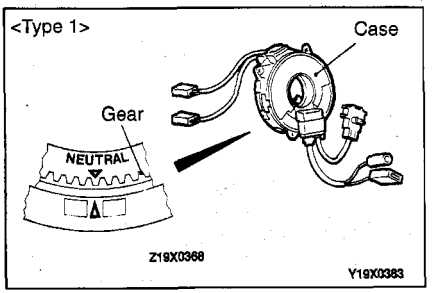
<Front passenger's side>


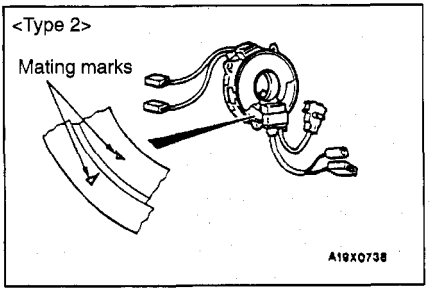
(3) Check connectors for damage, terminals deformities.
(4) Check air bag inflator case for dents, cracks or deformities.
(5) Check harness (built into steering wheel) and connectors for damage, and terminals for deformities.

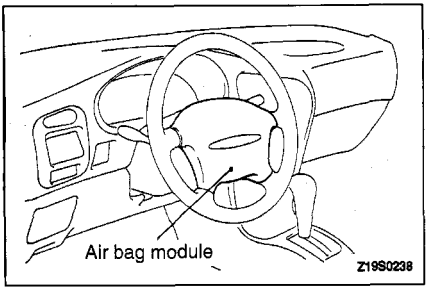


(6) Check clock spring connectors for damage, and terminals for deformities.

TSB Revision







(7) Visually check the clock spring case (type 1), the case (type 2) and the gears for damage.

(8) <Type 1>
Align the mating mark and "NEUTRAL" position indicator and, after turning the vehicle's front wheels to straight-ahead position, install the clock spring to the column switch.

<Type 2>
Align the mating mark of the clock spring, and, after turning the front wheels to the straight-ahead position, install the clock spring to the column switch.

Mating mark alignment:
Rotate the clock spring clockwise until tight. Then rotate in opposite direction approximately 3 1/3 turns to align the marks.

Caution
If the clock spring's mating mark is not properly aligned, the steering wheel may not be completely rotational during a turn, or the flat cable within the clock spring may be severed, obstructing normal operation of the SRS and possibly leading to serious injury to the vehicle's driver.

(9) Install the steering wheel, steering column covers and the air bag module.
(10) Check steering wheel for noise, binds or difficult operation.
(11) Check steering wheel for excessive free play.

REPLACE ANY VISUALLY INSPECTED PART IF IT FAILS THAT INSPECTION.

(Refer to GROUP 52B – Air Bag Module and Clock Spring.)

Caution
The SRS may not activate properly if any of the above components is not installed properly, which could result in serious injury or death to the vehicle's driver.

2-3 Body Wiring Harness

(1) Check connectors for poor connections.
(2) Check harnesses for binds, connectors for damage, and terminals for deformities.

REPLACE ANY CONNECTORS OR HARNESS THAT FAIL THE VISUAL INSPECTION.

(Refer to GROUP 52B – SRS Service Precautions.)

Caution
The SRS may not activate properly if SRS harnesses or connectors are damaged or improperly connected, which could result in serious injury or death to the vehicle's driver.

22. EXHAUST SYSTEM (CONNECTION PORTION OF MUFFLER, PIPINGS AND CONVERTER HEAT SHIELDS) (Check and service as required)

11000386

1. Check for holes and exhaust leaks due to damage, corrosion, etc.
2. Check the joints and connections for looseness and exhaust leaks.
3. Check the hanger rubber and brackets for damage.

MAIN SEALANT AND ADHESIVE TABLE

110000055

SEALANTS FOR ENGINE ACCESSORIES

Application	Recommended brand
Sealing between rocker cover and camshaft bearing cap (4G6 DOHC and 6G7 engines only)	3M ATD Part No. 8660 or equivalent
Sealing between semi-circular packing and rocker cover and between semi-circular packing and cylinder head	
Oil pressure switch (except 4G1 and 6G7 engines)	
Engine coolant temperature switch, Engine coolant temperature sensor, Thermo valve, Thermo switch, Joints, Engine coolant temperature gauge unit (large size)	3M Nut Locking Part No. 4171 or equivalent
Engine coolant temperature gauge unit (small size, MD091056 only)	3M ATD Part No. 8660 or equivalent
Oil pan (except 4G5 engine)	MITSUBISHI GENUINE Part No. MD997110 or equivalent

SEALING BETWEEN GLASS AND WEATHERSTRIP

Application	Recommended brand
Sealing between tempered glass and weatherstrip	3M ATD Part No. 8513 or equivalent
Sealing between body flange and weatherstrip	3M ATD Part No. 8509 or equivalent
Sealing between laminated glass and weatherstrip	

ADHESION WITH RIBBON SEALER

Application	Recommended brand
Waterproof film for door, Fender panel, Splash shield, Mud guard, Rear combination light	3M ATD Part No. 8625 or equivalent

ADHESIVES FOR INTERIOR TRIM

Application	Recommended brand
Adhesion of polyvinyl chloride sheet	3M Part No. EC-1368 or equivalent
Adhesion of door weatherstrip to body	3M ATD Part No. 8001 or 3M ATD Part No. 8011 or equivalent
Sealing between grommet or packing, and metal seal	3M ATD Part No. 8513 or equivalent
Adhesion of headlining and other interior trim materials	3M Part No. EC-1368 or 3M ATD Part No. 8080 or equivalent
Adhesion of fuel tank to pad	

BODY SEALANT

Application	Recommended brand
Sealing of sheet metal, drip rail, floor, body side panel, trunk, front panel and the like joints	3M ATD Part No. 8531 or 3M ATD Part No.8646 or equivalent
Sealing of liftgate hinges	

TSB Revision

CHASSIS SEALANT

Application	Recommended brand
Sealing of flange surfaces and threaded portions	3M ATD Part No. 8659 or equivalent
Fuel gauge unit packing	
Sealing of flange surfaces, threaded portions, packing and dust cover • Differential carrier packing • Dust covers for ball joint and linkage • Steering gear box packing and shims • Steering gear housing rack support cover and top cover • Mating surface of knuckle arm flange	3M ATD Part No. 8663 or equivalent
Sealing between accelerator arm bracket and firewall	Drying sealant
Sealant for drum brake shoe hold-down pin and wheel cylinder	3M ATD Part No. 8513 or equivalent

FAST BONDING ADHESIVE

Application	Recommended brand
Adhesion of all materials except polyethylene, polypropylene, fluorocarbon resin or other materials with highly absorbent surface	3M ATD Part No. 8155 or equivalent

ANAEROBIC FAST BONDING ADHESIVES

Application	Recommended brand
Fixing of bolts and screws • Tightening of drive gear to differential case • Bolts for coupling tilt steering upper column with lower column	3M Stud locking Part No. 4170 or equivalent
Fixing of bearing, fan, pulley and gear connections	
Sealing of small recess or flange surface	
Steering angle stopper bolt (jeep)	3M Nut locking Part No. 4171 or equivalent

UNDERCOAT

Application	Recommended brand
Undercoat	3M ATD Part No. 8864 or equivalent